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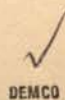


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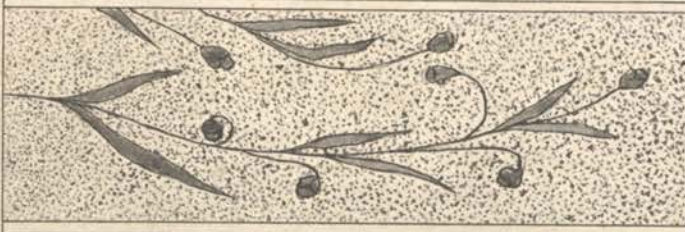
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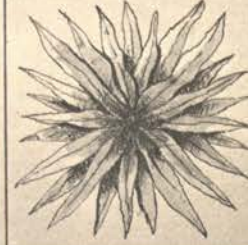




The Rolla



VOL IV-1910



Published Annually by the Students of the
MISSOURI SCHOOL OF MINES AND METALLURGY
ROLLA, MISSOURI

To

Daniel C. Jackling

WHO GRADUATED FROM THE MISSOURI
SCHOOL OF MINES IN '92, AND IS TODAY
ONE OF THE FOREMOST MINING ENGINEERS
IN AMERICA, THIS BOOK, THE RECORD OF
ALL WE HOLD DEAR OF OUR COLLEGE
DAYS, IS RESPECTFULLY DEDICATED







Greeting



MANY DAYS of careful thought, ninety days of real hard work, thirty days during which we worried the life out of the printer, and at last—The Book. It may not come up to your ideals, it certainly does not come up to ours. Since at best it is but a silhouette of college men and college traditions, we do not expect that anyone will be pleased with all of it, nor everyone with any of it. Our care has been to set down facts, sugarcoating the pellets with such fancy as was in us. We have endeavored to make it our policy to praise indiscriminately and to criticise consistently. Herein is testimony of our affection and proof of our respect for all the great and good lives that have illuminated ours. Those who have drawn too near the furnace fires of our outraged patience have been roasted, and the hammer has fallen gently where we thought knocking was needed. And so to you, the Faculty, the Student Body, and the Alumni, we offer this—
The Rollamo of Nineteen Hundred and Ten. x x x



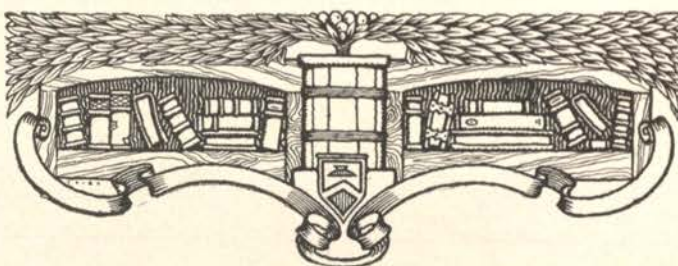
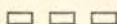
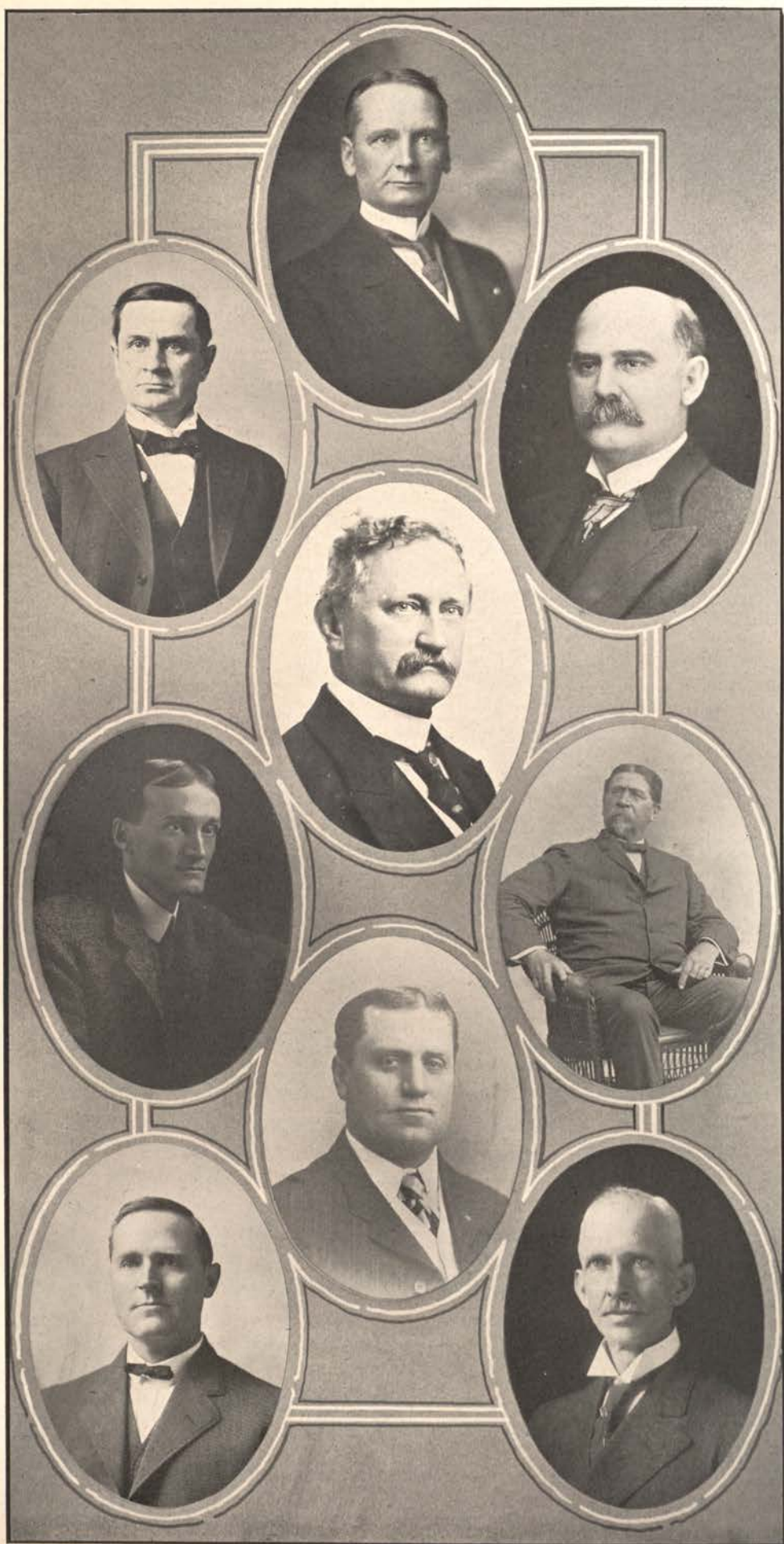


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BOARD OF CURATORS

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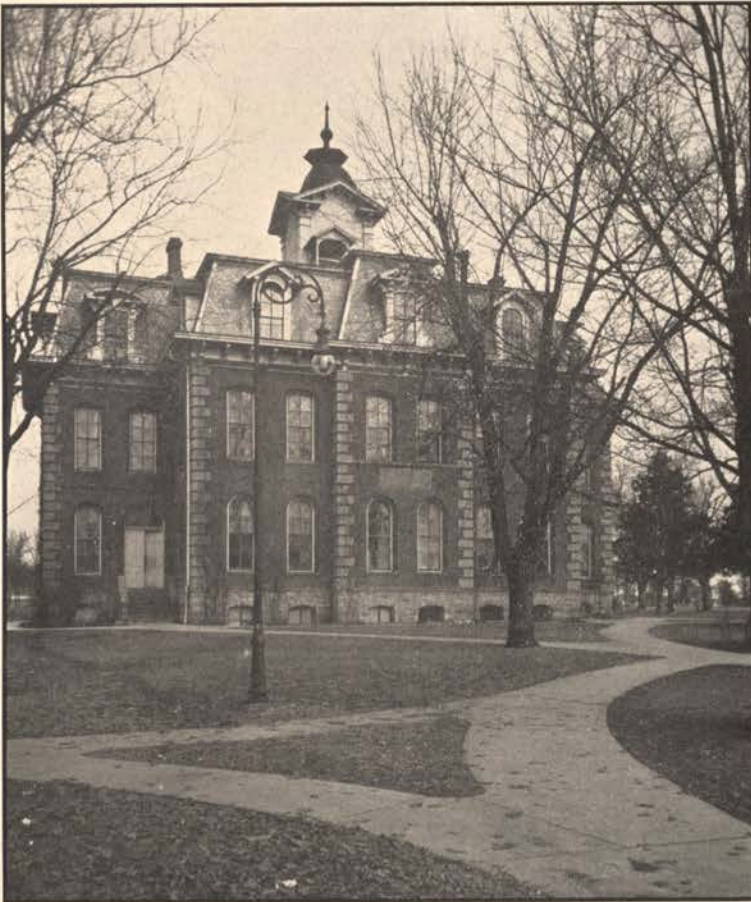
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P. E. BURTON	- - - - -	JOPLIN
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P. E. BURTON	Chairman.	

EDW. KAHLBAUM, Secretary.

CHAS. M. KNAPP, Treasurer.



THE ROLLA BUILDING.

The Oldest Building on the Campus. It Was Here That the
First Classes Were Held in 1871.

FACULTY



ALBERT ROSS HILL, Ph. D., LL. D.,
President of the University of Missouri.



LEWIS EMMANUEL YOUNG, B. S., E. M., T $\&$ $\square$

Director of the School of Mines and Metallurgy, Director of the Mining Experiment Station, and Professor of Mine Engineering.

Member American Mining Congress; Member Western Association of Technic Chemists and Metallurgists; Member Colorado Scientific Society; Member Society for Promotion of Engineering Education.

B. S., Pennsylvania State College, 1900; E. M., Iowa State College, 1904; Assistant Engineer, Pittsburg Coal Co., 1900; Instructor in Mining, Iowa State College, 1900-01; Assistant Geologist, Iowa Geological Survey, 1901; Mining Engineer with Champion Copper Co., Painesdale, Mich., 1902; Assistant Professor of Mining, Colorado School of Mines, 1903-04; Professor of Mining, Colorado School of Mines, 1904-07; Consulting Mining Engineer, Denver; Director of the School of Mines and Metallurgy, University of Missouri, 1907; Director of Mining Experiment Station, 1909-.



GEORGE REINALD DEAN, B. S., C. E., T Φ Π
Professor of Mathematics.

Member American Mathematical Society;
Member St. Louis Academy of Science.
C. E., Missouri School of Mines, 1890; B.
S., 1891; Assistant in Mathematics, 1890-
91; Professor of Mathematics, Coe Col-
lege (Iowa), 1892-93; Assistant in Lean-
der McCormick Observatory, University
of Virginia, 1893-94; Assistant in Office
of J. A. Waddell, Consulting Bridge En-
gineer, 1894; Teacher in Mathematics,
Central High School, Kansas City, Mo.,
1894-97; Professor of Mathematics Mis-
souri School of Mines, 1897-.

AUSTIN LEE McRAE, B. S., S. D., X Φ , T Φ Π
Professor of Physics.

Fellow American Association for the Ad-
vancement of Science.
B. S., University of Georgia, 1881; S. D.,
Harvard University, 1886; U. S. Signal
Service (Electrical Work), 1882-89; U. S.
Signal Service (Missouri State Weather
Service) and Assistant Professor of
Physics, University of Missouri, 1889-91;
Professor of Physics, Missouri School of
Mines, 1891-94; Associate Professor of
Physics, University of Texas, 1894-96;
Consulting Engineer, St. Louis, 1896-99;
Professor of Physics, Missouri School of
Mines, 1899-.

ELMO GOLIGHTLY HARRIS, C. E.,
Professor of Civil Engineering.

Member American Society of Civil En-
gineers.
C. E., University of Virginia, 1882; Prac-
tical Engineering, 1882-91; Director of
Missouri School of Mines, 1891-92; Pro-
fessor of Civil Engineering, Missouri
School of Mines, 1891-1901; Associate
Professor of Civil Engineering, Univer-
sity of Pennsylvania, 1901-03; Professor
of Civil Engineering, Missouri School of
Mines, 1903-.



VICTOR HUGO GOTTSCHALK, B. S., T Δ Γ
M. S.,

Professor in Chemistry.

Member American Association for the Advancement of Science; Member American Chemical Society; Member St. Louis Chemical Society; Member Western Association of Technical Chemists and Metallurgists.

B. S., Missouri School of Mines, 1898; Assistant United States Assayer, Kansas City, Mo., 1898-99; Assistant in Chemical Department, Marion-Sims Medical College, 1899; Assistant in Chemistry, Missouri School of Mines, 1899-1900; Instructor in Chemistry, 1900-01; Acting Professor of Chemistry, 1901; Student, University of Chicago, 1901; Cornell University, 1901-02; Professor of Chemistry, Missouri School of Mines, 1902-.

DURWARD COPELAND, S. B., Σ P, T Δ Γ
Professor of Metallurgy.

S. B., Massachusetts Institute of Technology, 1903; Assistant to Professor H. O. Hoffman and Instructor in Metallurgy, Massachusetts Institute of Technology, 1903-04; Instructor in Metallurgy and Ore Dressing, Michigan College of Mines, 1904-07; Professor of Metallurgy, Missouri School of Mines, 1907-.

LEON STACY GRISWOLD, A. B., Δ Υ , T Δ Γ
Professor of Geology.

Member American Institute of Mining Engineers; Fellow Geological Society of America; Fellow American Association for the Advancement of Science; Associate Boston Society of Civil Engineers; Member American Geological Society; Member American Forestry Association. A. B., Harvard University, 1889; Assistant, Arkansas Geological Survey, 1889-91; Assistant U. S. Geological Survey, 1893-94; Instructor in Geology, Harvard University, 1893-96; Engaged in Mining in Montana, 1896-1903; Assistant Professor of Geology and Mineralogy, Missouri School of Mines, 1904-09; Professor of Geology, 1909-.



CARROL RALPH FORBES, B. S., E. M., $\Sigma P, T \& \nabla$
Assistant Professor in Mining.

B. S., Michigan College of Mines, 1902; E. M., Michigan College of Mines, 1903; Assistant in Mechanical Engineering, Michigan College of Mines, 1901-02; Assistant in Mining Engineering, Michigan College of Mines, 1902-03; Engineer, Victoria Copper Mining Company, Rockland, Mich., 1903-06; Mining Engineer, Michigan Copper Mining Company, Rockland, Mich., 1906-07; Engineer, Nevada Smelting and Mines Corporation, Tonopah, Nev., 1907; Assistant Superintendent Nevada-Douglas Copper Company, Yerington, Nev., 1908; Graduate Student Missouri School of Mines, 1908-09; Assistant Professor of Mining Missouri School of Mines, 1909-.

J. TERENCE McVEY, C. E.,
Instructor in Civil Engineering.

C. E., Lehigh University, 1906; Engineering Corps, Delaware, Lackawanna and Western Railroad, 1906; Engineering Department, Central of Georgia Railway, 1907; Instructor in Civil Engineering, Michigan Agricultural College, 1907-'09; Instructor in Civil Engineering Missouri School of Mines, 1909.

HORACE THARP MANN, B. S., M. S., $\Pi K A, T \& \nabla$
Instructor in Metallurgy.

B. S., Missouri School of Mines, 1908; M. S., 1909; Engineer, Alvarado Gold Mining Company, Congress Junction, Ariz., 1908; Instructor in Metallurgy, Missouri School of Mines, 1908-.



JOSEPH HENRY BOWEN,

Assistant Professor of Shop Work and Drawing.

Graduate Miller School (Virginia), 1895; Rhode Island School of Design, 1896-97; Instructor in Shop Work and Drawing, Missouri School of Mines, 1902-06; Assistant Professor of Shop Work and Drawing, Missouri School of Mines, 1906-.

LEON ELLIS GARRET, B. S., T 37

Assistant Professor of Mathematics.

B. S., Missouri School of Mines, 1901; Assistant in Mathematics 1901-'03; Instructor in Mathematics, 1903-'06; Assistant Professor of Mathematics, School of Mines, 1906-.

LOUIS AGASSIZ TEST, B. S., A. C., Ph.D., 23,

Assistant Professor of Chemistry.

Member American Chemical Society; Member American Association for the Advancement of Science; Member Cooper Club; Member American Ornithologists' Union.

B. S., Purdue University, 1894; A. C., Purdue University, 1896; Assistant in Chemistry, Purdue University, 1896-97; Assistant in Chemistry, Colorado Agricultural Experiment Station, 1897-1901; Graduate Student, University of Chicago, 1901-02; Instructor in Chemistry, Purdue University, 1903-06; Graduate Student, University of Chicago, 1906-07; Ph.D., University of Chicago, 1907; Professor of Chemistry, Occidental College, Los Angeles, Cal., 1907-09; Assistant Professor in Chemistry, Missouri School of Mines, 1909-.



GUY HENRY COX, B. S., M. A., A X Σ

Assistant Professor of Mineralogy and Petrography.

Member California Mining Association.

B. S., North-Western University, 1905; Graduate Student School of Mines, University of California, 1905-06; Graduate Student University of Wisconsin, 1907-08; M. A., University of Wisconsin, 1908; Instructor in Geology, University of California, 1908-09; Assistant Professor in Mineralogy and Petrography, Missouri School of Mines, 1909-.

BOYD DUDLEY, JR., B. S.

Instructor in Metallurgy and Ore Dressing.

B. S. in General Science, Missouri School of Mines, 1908; Instructor in Metallurgy and Ore Dressing, Missouri School of Mines, 1908-.

FRANK EDWARD DENNIE, B. S., $\Theta \Delta \chi$

Instructor in Civil Engineering and Physical Training.

B. S., Brown University, 1909; Instructor in Civil Engineering and Physical Training, Missouri School of Mines, 1909.



PAUL JULIUS WILKINS, B. S.
Instructor in Modern Languages.

B. S., Michigan Agricultural and Mechanical College, 1896; Instructor in Modern Languages, Missouri School of Mines, 1897-.

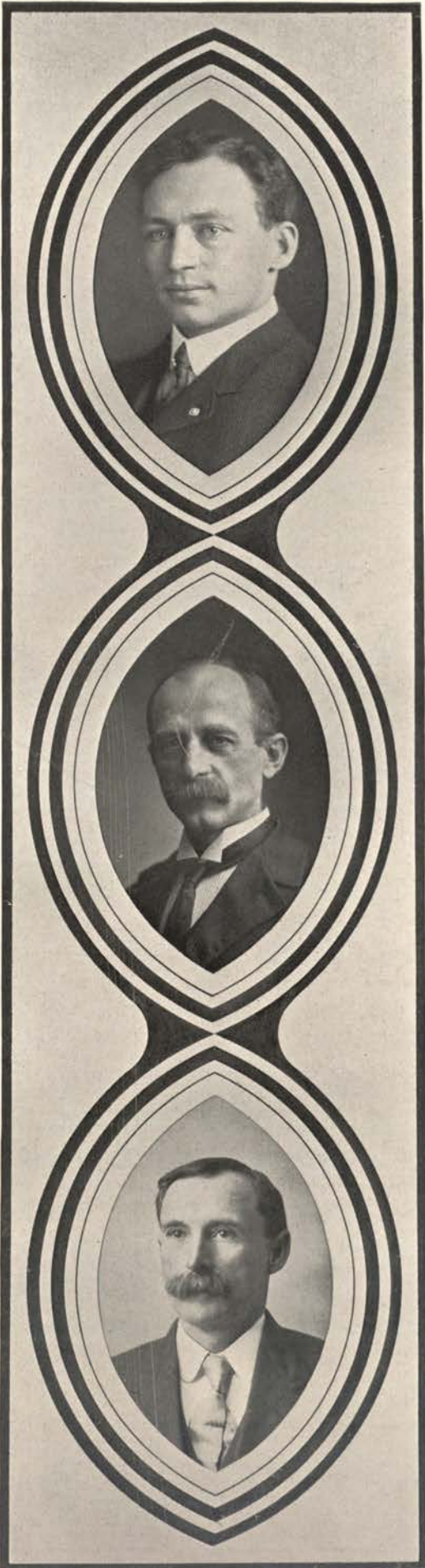
JOHN BENNETT SCOTT, B. S.,
Instructor in English.

B. S. Missouri School of Mines, 1907; Instructor in English, Missouri School of Mines, 1897-.

FREDERICK WILLIAM BUERSTATTE,
B. S.,

Instructor in Mechanical Drawing.

B. S., University of Wisconsin, 1901; Mechanical Department, Chicago and North-Western Railway, 1901-05; Draftsman, Railway Appliance Company, 1905; Draftsman, Keystone Harvester Company, 1906; Chief Draftsman, Manchester Sargent Company, 1906-07; Chief Draftsman, American Well Works, 1907-09; Instructor in Mechanical Drawing, Missouri School of Mines, 1909-.



JOHN PERRY WALKER, JR.,
Assistant in Chemistry.

Student in the School of Mines, 1899-1900, Chemist with American Car and Foundry Company, 1900; Assayer, Neihart, Mont., 1901; Assistant Chemist, Boston and Montana Consolidated Copper and Silver Mining Company, Great Falls, Mont., 1901-1906; Chemist in Charge of Electrolytic Laboratories, Boston and Montana Consolidated Copper and Silver Mining Company, Great Falls, Mont., 1906-1909; Station Assistant, Missouri Mining Experiment Station, 1909-1910; Assistant in Chemistry, Missouri School of Mines, 1910-.

EDWARD KAHLBAUM,
Secretary of the Executive Committee and
Registrar of the School.

ROBERT R. DICKERSON,
Superintendent of Buildings and Grounds.



KATHERINE FLOSSIE WYNN,
Stenographer.

IDA STEVENS GARRETT,
Librarian.



Seniors





FRANK ORRIS BLAKE, JR.,
St. Louis, Mo.

Sigma Nu.
Athletic Association 1, 2.
Track 3, 4, M I, 2.
Base Ball 1, 2.
Football 1, 2, 3.
Basket Ball 3, 4, M I, 2.

Frank is the original Economic shark, having gained most of his knowledge in the Rockies last summer, where he says he succeeded in locating several manganese mines. Hasn't any girl of his own, but causes Dosie much anxiety at times. Good all around athlete. Says he expects to make more money than any other man in the class, and we would not be surprised to see him do so.



JOHN WHITTLESAY BODMAN,
Kansas City, Mo.

Tau Beta Pi.
Rollamo Board 4.
Missouri Univ. 1, 2.
Miners' Minstrel 3, 4.
Miners' Dining Club.

John is an earnest, conscientious student, but he squanders too much of his time in reading the Kansas City papers. Champion tennis player. Sings "Anna Held" songs with a graveyard face. Found time to contribute one ten-line article to the Rollamo. Slow moving, but gets there in the end, and we predict a rosy future for him.



EARL FREDERICK BOLAND,
Syracuse, N. Y.

Syracuse Univ. 1, 2.
Coach 3.
Athletic Association 3, 4.
R-Way Club.

For awhile we were in doubt as to whether he would be with us on the all eventful day, but by a long hard pull and a determination not to be downed, he showed what was in him, and will make the finish. Always shows the proper school spirit. Rumored that he intends to go into the sign business. Is the prince of good fellows. Intends to return to New York after graduation, but we expect to see him succeed no matter where he goes.



JAMES JOSEPH BOWLES,
Lake Springs, Mo.

Grubstaker.
Football M 2, 3, 4.
Athletic Association 1, 2, 3, 4.

The "old reliable" football tackle. Specializes in Cyaniding. Is taking Petrography to help him on the farm, where he expects to go when he graduates. When he first came here used to do the society act, but has reformed of late. Is a sticker and the kind of a man you like to have with you in a tight place.



WILLIAM GROVER BRANHAM,
Joplin, Mo.

Missouri Univ. 1, 2.
R-Way Club.
Miners' Minstrel 4.
Athletic Association 4.
Assistant in Physics 4.

Bill knows all about Joplin and is quite ready to impart his information. Came from Missouri University, and has made good. Bluffs out the Juniors in the Physics Lab. His attitude of finality ought to get him a job without any trouble, and what he has behind it ought to enable him to hold it without any trouble.



JAMES BUNTEN,
Canon City, Colo.

Grubstaker.
Miners' Minstrel, End Man 4.
Athletic Association 1, 2, 3, 4.
Track Squad 1.

Jimmy is the owner of a half interest in the American Eagle ranch, and his greatest ambition in life is to "rough up" Vogt. A genuinely whole-souled, good-hearted "old scout," from whom we will all regret parting. "Hello, thar," is his usual greeting. Don't worry about his future, he will take care of that, all right.



CHARLES ADRIAN BURDICK,
Dansville, N. Y.

R-Way Club.
Athletic Association 1, 2, 3, 4.
Y. M. C. A.

Indefatigable snipe hunter. The cause of the "No Loafing" sign at the bakery. Undecided as to whether he will be an electrician or start a bakery of his own, but whatever he does he is bound to make good.



RUSSELL BIGELOW CAPLES, JR.
Glasgow, Mo.

Tau Beta Pi.
Pritchett College 1.
Athletic Association 2.

Cape has a fund of stories of "When I worked for the Government on the Tennessee," which are developed with mathematical accuracy, no detail being omitted. Troubled with bashfulness, but it is hoped that his recently awakened interest in one of the fair sex will cure him. Has the faculty of doing lots of work in a short space of time. Is one of the "guns" of the class and always "Johnny-on-the-spot" when it comes to a show-down.



JOHN CHARLES CLARK,
Chicago, Ill.

Kappa Sigma,
Basket Ball M 3, Capt. 4.
Base Ball M 2, 3.
Athletic Association 1, 3 4.

Formerly vice president of the Y. M. C. A., but requested us not to divulge the fact. Chief occupation is competing with "The Midshipman." When not fussing can be found at the cigar store discussing learnedly on trap shooting, good tobacco, and the merits of Rolla as a summer resort. His ability is unquestioned, and should win him a high place in the world.



HARRY WADE CONNELLY,
Independence, Kansas.

R-Way Club.
Athletic Association 2.
Y. M. C. A.

That his answers in class usually commence with "why, why-a," and that quite frequently that is as far as he gets, is no sign that Wade doesn't know. He is only trying to fool the Profs. Comes from Kansas, and is the happiest man in school, presumably because he got away from there. Wears a khaki coat, on which he has rented advertising space to Caples, Boland and Bowles. Is everybody's friend and ought to make good.



ALFRED NICKS DETWEILER,
Lebanon, Mo.

Tau Beta Pi.
Lucky Strike Club.
Athletic Association 1, 2, 3, 4.
Football M 2, 3, 4.
Y. M. C. A.

Ran a country store before he came to school and must have lost some of his voice then, for you wonder how so big a man can have so small a voice. Good football player, good student and good all around man. If he works as hard after he gets out of school as he has in, he sure will make a success.



EMILIO DIAZ,
Santiago, Chili.

Cosmopolitan Club.
Miners' Minstrel 4.

Primo is a wide awake Chilian who "savvied" American ways readily, and has made good with a vengeance. Is fond of hearing and telling a good joke, and can laugh louder than any man in the class. He hasn't missed an exempt list since he can remember. Will return to Chili when he graduates, and will be a credit to the school.



BENJAMIN HARRISON DOSENBACH,
St. Louis, Mo.

Kappa Sigma.
Miners' Minstrels 3, 4.
Baseball M. 1, 2, 4.
Athletic Association 1, 2.

Has had trouble with the girl question and with his studies, but is now doing well with both. If he can slide into a good job as easily as he can into second base he has a successful future before him. Will be remembered by all for his good nature and generosity.



MONROE FARRAR,
Mattoon, Ill.

Track 1, 2, 3, 4, M 2, Capt. 3.
Athletic Association 1, 2, 3.
Y. M. C. A.

Farrar started out as a farmer and then decided to try mining instead, but we expect to see him go back to the farm in the end. Has always taken an interest in athletics, and has done good work in the distances. Is very quiet and subdued, but when occasion demands it will come out of his trance long enough to say what he thinks. He chaperones Traugher and McNutt, and makes them lead the simple life.



JOHN KAVANAUGH FORMAN,
McFall, Mo.

Lucky Strike Club.
Athletic Association 1, 2, 3, 4.
Y. M. C. A.

So conscientious and attentive in class that he is a ready reference in looking up lesson assignments. At the stock room always asks for "Judigers." Is reported to have a girl out Salem road. Recommends the use of forced draft for blast furnaces. Whatever he does he does well and this quality will bring him success.



KEITH COLT FRASER,
Lyndonville, N. Y.

Lucky Strike Club.
Athletic Association 1, 2, 3, 4.
Y. M. C. A.

He is so quiet and unobtrusive that his presence was not even suspected until he had been here over a year. Fussess intermittently. Proved to be the long-distance walker of the Colorado trip. Is a good, steady, hard-working fellow, and has made many friends. Will be remembered as a man who kept out of the limelight from preference and not from lack of ability.



FRANK LEROY FLYNT,
Rolla, Mo.

Athletic Association 1, 2, 3.
Orchestra 2, 4.

He is a remnant of the '08 Class, and so we don't know much about him, but since he has been with us he has demonstrated that he is one of the best men they have left behind. Spends most of his time at home with his wife and children.



CLAY GREGORY, JR.,
Joplin, Mo.

Theta Nu Epsilon.
Rollamo Board 3.
Baseball 1, 2, Capt. 3.
Basket ball 2, Capt. 3.
Athletic Association 2, 3.

Probably the best all around athlete in school. His marked ability to do a term's work in the last week has saved him many times from the "lucrative position" route. Originated the "cuckoo" yell, and taught Charlie how to say "Um-ma-lay-a-toe." Has remarkable ability along all lines, and if he don't make good we don't know who will.



JOHN DEE HARLAN,
Moberly, Mo.

Kappa Alpha.
Tau Beta Pi.
Rollamo Board 4.
Miners' Minstrel End Man 3, Manager 4.
Assistant in Ore Dressing 4.
Athletic Association 1, 2, 3, 4.
Y. M. C. A.

Jack has a girl in every town in which he has ever been, although that doesn't seem to keep him from getting out his work on time. Has the ability of getting good grades without doing much studying. Worked at the Liberty Bell Mine, and is always ready to tell all about it. Is a hustler, and as a promoter, well he could make a go out of a placer mine in the middle of the Sahara Desert. Thoroughness and sticktoitiveness are his characteristics, and will bring him success.



OLIVER WENDELL HOLMES,
Rolla, Mo.

Football Squad 3, 4.
Athletic Association 3.
Y. M. C. A.

Waited over a year so he could graduate with the Class of 1910. Helps take care of the Count when he meets with disappointments in his love affair. Quiet and unobtrusive, but is always there with the goods.



WILLIAM HAMILTON JONES,
St. Louis, Mo.

Kappa Sigma.
Athletic Association 2, 3.

Believes that if four years of college are good five years are better, and it is rumored that he is beginning to believe that six years are best. Has carried a diamond ring around for four years, but seems unable to unload it. We wish him better luck in the future. Once made an E in assaying. Bill doesn't believe in letting his school work interfere with his course in "Girlogology," but, taken all in all, is a mighty good fellow, even though he is in love.



ANTON FREDERICK KARTE,
De Soto, Mo.

Grubstaker.
Orchestra 3, 4.
Athletic Association 1, 2, 3, 4.

Dutch got a late start and so won't be able to stand up with us when we receive our sheepskins in June. However, he will come in strong at the finish next year. Is always good-natured and has many friends.



JOHN RICHARDSON KENNEY,
Chicago, Ill.

Kappa Alpha.
Miners' Minstrels 3, 4.
Orchestra 3, 4.
Lewis Institute 1, 2.
Athletic Association 3.
Y. M. C. A.

Charter member "St. James' Fussers' Association," his main grievance being that the Frisco won't stop their fast trains there. Would have made good on the football team if he had only developed speed, learned to tackle properly and learned to catch and carry the ball. Was a star on the Y. M. C. A. team. Jack is a born electrician, and will make a brilliant success at his chosen profession, and this, combined with his mining experience, should make him a valuable man in the field.



RALPH DANIEL KILLIAN,
Perryville, Mo.

Kappa Sigma.
Athletic Association 1, 2, 3.

A quiet, progressive, square-dealing fellow, the kind you would trust to take care of your money, if you were fortunate to possess some of the long green. Spends most of his spare time taking care of Pete. Always has a rather serious expression, which he uses to good effect in fooling the Profs. The sort of a fellow that you would like to have for a next door neighbor.



VACHEL HARRY McNUTT,
Monroe City, Mo.

Class Pres. 4.
Assistant in Mineralogy 4.
Athletic Association 2, 4.
Y. M. C. A.

McNutt, McNutt, shades of Scotland, what a name for a "show-me" Missourian. You listen for the whistle and drone of bag-pipes to say that the "Campbells are coming," but all you hear is the rustle and sigh of the wind through his whiskers to announce the arrival of McNutt. Mac is assistant to Cox, and can grow more hair on his chin than Cox can on his head. Is a born Mineralogist, and our only hope for some day claiming the U. S. G. S. Chief.



ROBERT WILLIAM MACKEY,
Soda Springs, Idaho.

Phi Kappa Sigma.
Tau Beta Pi.
Armour Institute 1.
Purdue Univ. 2.
Rollamo Board 4.
Assistant in Physics 3.
Athletic Association 3, 4.
Miners' Minstrel 3, 4.

Is one of the promoters of the "Rolla Taxicab Co.," but spends most of his spare time in "close harmony" for the benefit of the fair sex, and in teaching Chili how to swear in English. Has had numerous love affairs, but so far none have proved fatal. Is an enthusiastic fisherman and an authority on all matters pertaining to that sport. Is the Editor-in-Chief of this book, and so modest that he won't let any mention be made of his good qualities.



HARMON EDWARD MINOR,
Canon City, Colo.

Pi Kappa Alpha.
Assistant in Surveying 4.
Athletic Association 1, 2, 3.

Comes from under the shadow of the prison walls, and has turned out well considering his environments. We do not know whether he was ever an inmate or not, but as he has never done much but work and mind his own business we will give him the benefit of the doubt and will say no more about it. Falls in love for a few weeks the beginning of the third term each year. Will probably be a civil engineer when he gets out, and we see no reason why he should not reach a high mark with little difficulty.



ALLEN RAY DEARBON MORGAN,
Rolla, Mo.

Class Pres. 3.
Orchestra 2, 3, 4.
Miners' Minstrel, Interlocutor 3, 4.
Football M 2, 4, Capt. 3.
Track 2.
Athletic Association 2.

Now "Mr. Morgan of Rolla, Mo." Although Rube is not finishing up with us we know that it is not due to lack of effort on his part. Is a natural leader and organizer, and can make a good speech at any gathering from Epworth League to a Strawberry Social. Is a bright fellow and a good mixer, two qualities that will assure him a hearty reception wherever he goes.



BENTON FRANKLIN MURPHY,
Bonne Terre, Mo.

Grubstaker.
Athletic Association 3.
Track Team 3.

"Pat" is the old reliable of the Senior class. Always the one best bet and the man who knows when all other sources fail. Helped do the tramming for the Miners' Minstrel and as a reward was allowed to act as scene shifter for the Girls' Minstrel. He is a good fellow anywhere and a high card with the ladies. Is one of the guns of the class and if any man in the class is to make a big success, he is more than likely to be that man.



HARVEY SKIDMORE OWEN,
St. Louis, Mo.

Pi Kappa Alpha.
Rollamo Board 2.
Miners' Minstrel 3, 4.
Baseball M. I. 2, 3.
Athletic Association 1, 2, 4.

Will not graduate this year, but requested that his picture be put in so he could show it to the folks. Nobody doubts his ability and he probably would have gotten through had it not been for his numerous love affairs. "I never let my school work interfere with my college education."



ALBERT PARK,
Rolla, Mo.

Tau Beta Pi.
Athletic Association 1, 2, 3.
Y. M. C. A.

A man of many and varied interests. Father of the Y. M. C. A. A regular "Dudley second" when it comes to asking fool questions in the class room. His many friends will remember him as one of the hardest working and most conscientious members of the class.



HOWARD KELSEY PETERSON,
New Rochelle, N. Y.

R-Way Club.
Athletic Association 2.
Y. M. C. A.

Says he came to Rolla because his mother was afraid for him to take the train each day to go into New York City to school. We understand that he has a school teacher picked out down in the swamps of southeast Missouri, and that soon after Commencement we may expect the invites. Toward the end of the term displays a great interest in the exempt lists and manages to make some of them, too. Thinks that half an hour is ample time to solve any problem.



JOHN LYLE PICKERING, JR.,
Springfield, Ills.

Sigma Nu.
Athletic Association 3, 4.
University of Illinois 1, 2.
Track Squad 3.

Came from the University of Illinois two years ago, and his presence has been a treat to the girls. How they will miss him when he is gone. Advocated the use of tube-mills as coarse crushers. His steadiness and ability assure him a place in the engineering world.



LOUIS JOSEPH PORRI,
St. Louis, Mo.

Tau Beta Pi.
Baseball M 2, 3.
Athletic Association 1, 2, 3.

His main object in the course seems to be to keep on the good side of the profs. and of Clay Gregory, and at this much, at least, he is an adept. Is one of the best students in his class, but on trips can ask more fool questions in five minutes than can all the rest of the class in a whole day. Recommends that air-compressors be used to run generators. Spends a great portion of his time chaperoning his small brother. His brilliant intellect will bring him much credit, if he applies it rightly.



FRED EDWARD REIDE,
Canon City, Colo.

Grubstaker.
Orchestra 3, 4.
Miners' Minstrel 3, 4.
Rollamo Board 4.
Assistant in Chemistry 3, 4.
Athletic Association 1, 2, 3, 4.
Treasurer A. A. 4.

Noted as a non-fusser, as during his four years has never been to see a girl. Dutch has always been a hard, consistent worker and an interested participant in all student and athletic affairs. He has always given the best that is in him and has, by his efforts and labors, assured the success of many student movements.



SIDNEY RANDOLPH SCHMIDT,
Chicago, Ills.

New Mexico School Mines 1.
Baseball 2.
Football M. 2.
Athletic Association 2, 3, 4.
Basketball Manager 4.

Sid comes from Chicago and does his best to uphold the reputation of the Windy City. However, his talk is quite worth while, as he generally knows pretty well what he is talking about. Has recently reformed, there being the usual reason. Sid is a hard worker when he gets started and has done more work for this book than have five of the members of the Board. Once made an E and three F's on the same geology paper. Is a good all around man, the possessor of a good brain and great originality and we expect that he will climb the ladder to success in short order.



JOHN ELMER SCHULTZ,
Topeka, Kansas.

Tau Beta Pi.
Athletic Association 3, 4.
Washburn College 1, 2.

Celebrated his initiation into Tau Beta Pi by "conning" Dynamo. Was a newspaper reporter before he came here to school, and takes his notes in shorthand. But no matter whether he is an engineer or goes back to the newspaper, we are confident he will meet with success.



JOHN SLOAN STEWART, JR.
Mansfield, Ohio.

Lucky Strike Club.
Miners' Minstrel 4.
Athletic Association 1, 2, 3, 4.

The life of the Colorado trip. Always on the lookout for dances. Is a general favorite with the ladies and a society dog of the first water. When he first came here he had a girl at Mansfield, but now—. His originality has never been questioned and in all we predict a brilliant future. Always wears a smile upon his face and will never be without friends.



HARVEY EDSON SMITH,
St. Louis, Mo.

Pi Kappa Alpha.
Tau Beta Pi.
Rollamo Board 4.
Miners' Minstrel 3.
Athletic Association 1, 2, 3, 4.

Used to be quite a fusser, but this year has joined the "stay-at-home club." A prime favorite of Prof. Copeland's when it comes to oral quizzes. Has wonderful ability to make the profs believe that although present in body he is absent in spirit and then wilfully hurt the profs' feelings by answering correctly the questions asked him. Has made several trips to Columbia this year for some unexplained reason. He is a hustler and one of the guns of the class. Has unquestioned ability and will make good.



VAN HOOSE SMITH,
Little Rock, Ark.

Sigma Nu.
Rollamo Board 4.
Orchestra 3, 4.
Miners' Minstrel End Man 3.
Athletic Association 1, 2, 4.

Native of Arkansas and by the grace of God and much good luck will be with us next June. Helped Harvey water the horse his first year, but since then has been in social retirement. However, it is understood that he has a "queen" down in Arkansas. Is one of the most popular men in the class and a friend of everyone.



REUBEN CONRAD THOMPSON,
Sioux Falls, S. Dak.

Tau Beta Pi.
Grubstaker.
South Dakota School of Mines 1, 2.
Football M. 3, 4.
Athletic Association 3, 4.
Baseball 4.

An all around athlete, student and good fellow. Trammed for the Miners' Minstrel. Fussess very intermittently, but we understand that one of the "younger set" is "simply crazy" about him. The kind of a fellow that is bound to succeed in whatever he undertakes. Our only regret is that Tommy was not with us for the full four years.



CHARLES WEAVER TRAUGHER,
Centralla, Mo.

Track 1, 2; M. 3; Capt. 4.
Athletic Association 1, 2, 4.
Y. M. C. A.

Our almost human grasshopper or better, our human almost grasshopper, on account of his ability in negotiating the broad jump. Is sometimes mistaken for a Frenchman, but he isn't, he is from Missouri. He has no girl in Rolla, but he has a girl in pretty nearly every other town in which he has ever been. Always good natured and has a good word for everyone. He has plenty of ability and good common sense, as well, and will succeed wherever he may be placed.



GEORGE C. VOGT,
Davenport, Iowa.

Kappa Alpha.
Athletic Association 2, 4.

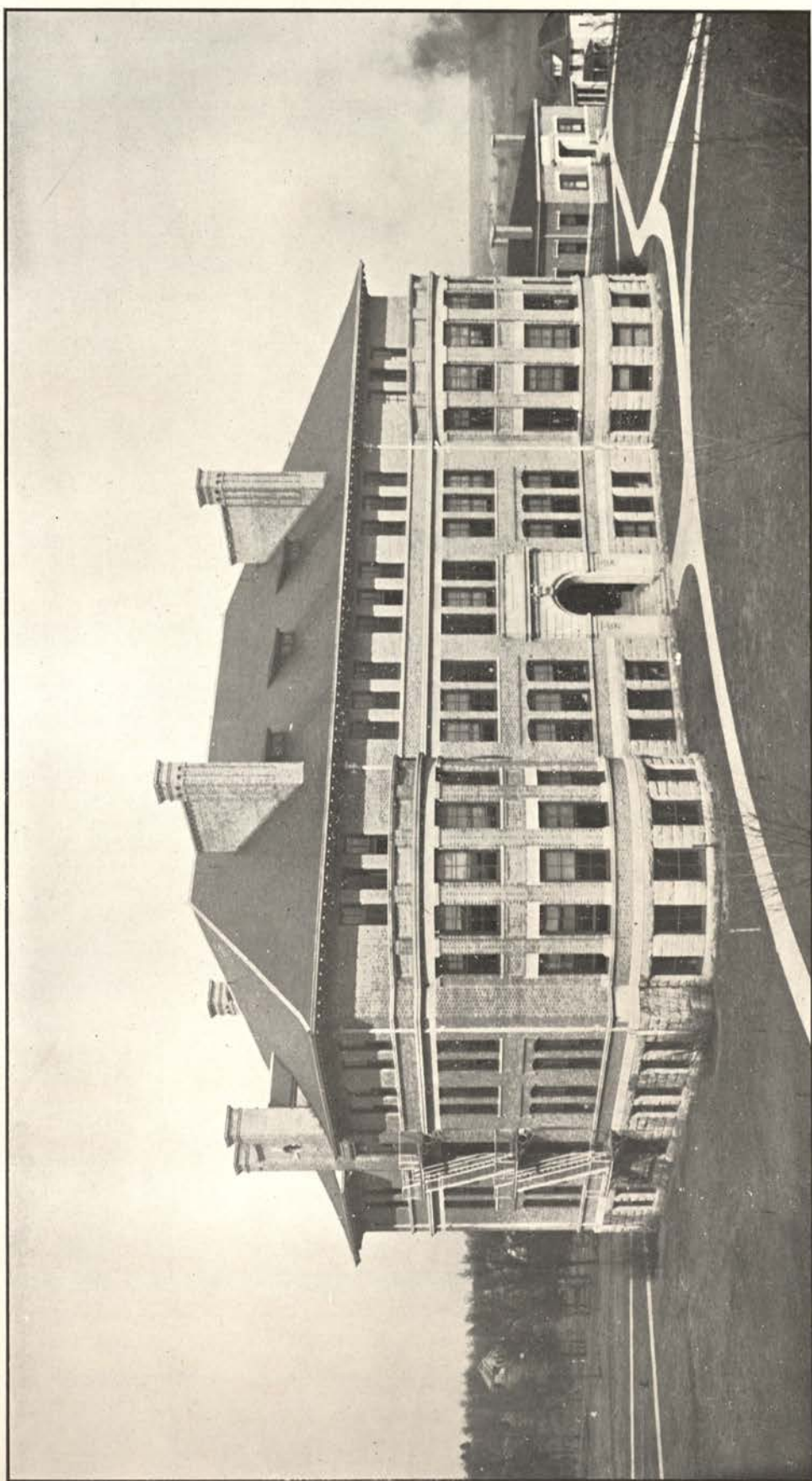
During his senior year he became a member of the St. James Fussing Association, which kept him up oftentimes until 4 a. m. When he wasn't at St. James he found plenty of time to sleep, some to study and always had enough time left to be sociable and accommodating. Is a chronic roughhouser. Upon graduation will return to dear old Iowa. George has made many friends at school and we shall hate to part from him in June, but whatever he does or wherever he goes we know we shall hear from him, as he is bound to make good.



ERNEST WANDER,
Chicago, Ills.

R-Way Club.
Athletic Association 1, 2, 4.
Y. M. C. A.

Charter member of the Snipe Hunters' Club. Addicted to long walks out Salem road. Believes that a course in Grlology is an essential part of a mining engineer's education. Always willing to help with what he knows and knowing it, too, has made him a general favorite with his classmates.



NORWOOD HALL

Senior Class History

WHEN we came here, a bunch of green, unseasoned Freshmen, we little realized how great a change would be wrought in us during the four years we were to be here. Practically all of us were fresh from High School, where honors had been heaped upon us, this making us altogether unfit for the unpleasant reception we received from the arrogant Sophs. Our initiation into college life was not of the violent variety, but, on the contrary, was very mild indeed, serving its purpose nevertheless. The first few weeks huge bumps of conceit were cleaved from our bulging domes by the Sophs who made us appear ridiculous in the performance of stunts for the edification of the town and school in general.

In the color rush we made a great showing but when it came to wearing the corduroys we had no luck at all, barrels being used in some cases to keep eager eyes from beholding weird lingerie. We donned the green caps after a fierce struggle, and at the peacemaking smoker we were made to feel that we were really a part of the school. Scrapping being over, we settled ourselves to the more serious tasks of making a showing in school. We wrestled with the vague forms on Descript and fumed away at Chemistry, coming out victorious only after losing much of our valuable time.

As Sophs we returned in the fall fully prepared to "do to the new class as we had been done unto." This we did, not in spirit of revenge but merely because it was a custom in the school. We brought up the younger brethren in a fitting style. A year of Dean developed our sense of humor to such an extent that we were able to laugh at a joke the seventeenth time. It was in this year that we made the acquaintance of our present Director, L. E. Young, whom we have learned to regard as a true friend.

Upon returning in the fall of '08 we perceived that our ranks had been considerably thinned out, but new men came in to make up for the loss of former classmates. During the class fights we, who were now upper classmen stood haughtily aloof and viewed, with passing interest, the two lower classes in their youthful struggles. All went well until we were shot from the hot boilers of the Thermo Lab. into the fathomless pool of Hydraulics. We fought the waves heroically and were victorious only after we had memorized Merriman from preface to index.

It was in the third term that Prof. Griswold inspired the great respect of all the class by his tireless trips over the hills in the quest of fossils. The said trips proved to be great training for us who were to take the annual inspection trip at the close of the school year. What a trip it was! On the jump from early morning till late at night and often from late at night till early morning, rambling over the "little knolls" and hurrying to catch trains which we often found to be a day or two late.

And now, on the eve of graduation, we are working hard to uphold the reputation of the class. Although many more things might have been done better, we still feel that we have done credibly and we will start on our journey through the province of mining with a good preparation and without conceit.

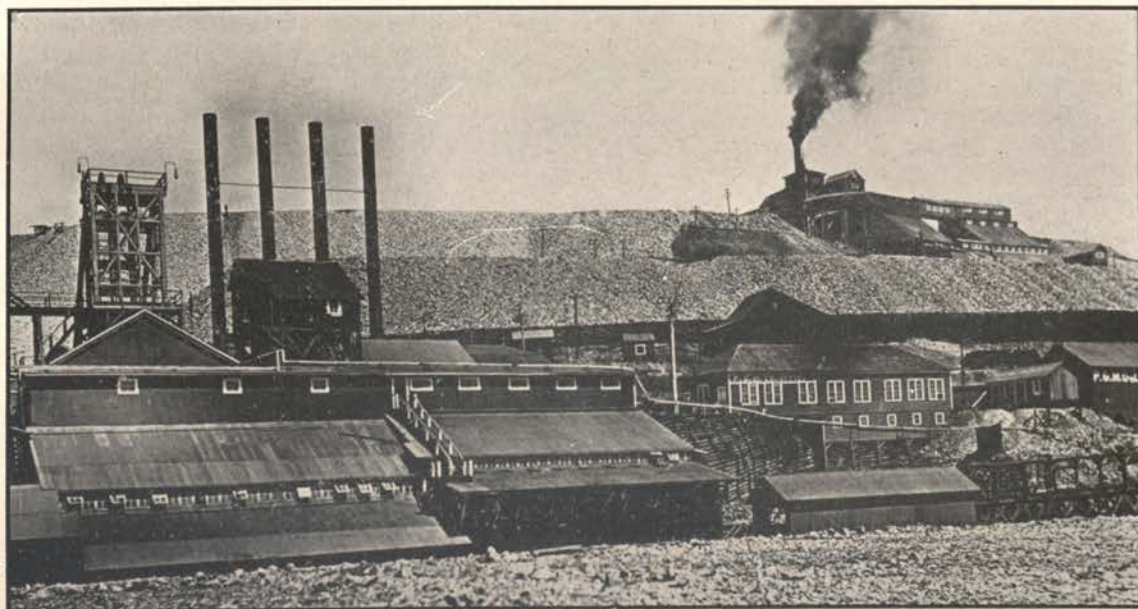
Adios, old M. S. M. We leave you with mixed joy and sorrow. We have spent the happiest years of our life with you and shall always cherish the memories of the happy hours spent within your halls. We leave you our best wishes and hopes for the future, taking with us that which is priceless and something which can never be lost: fond memories and the best possible mining education that can be obtained.

Ex-'10 Men

Robert Sexton Allen	- - - - -	Kansas City, Mo.
Robert Vaughn Aycock	- - - - -	Lebanon, Mo.
Fred Goodrich Beckner	- - - - -	Salt Lake City, Utah.
Daniel Webster Blaylock	- - - - -	Flat River, Mo.
Albert Daly Bryant	- - - - -	Washington, D. C.
Jacob C. Butcher	- - - - -	San Francisco, Cal.
Lindell Chew	- - - - -	St. Louis, Mo.
Arthur Clemens Coon	- - - - -	Kansas City, Mo.
Miland Harrison Detweller	- - - - -	Lebanon, Mo.
Robert Emmet Dye	- - - - -	Joplin, Mo.
Guy Dykes	- - - - -	Rolla, Mo.
Joseph Walter Elliot	- - - - -	Haileyville, Okla.
Rolfe Cleveland Gosrow	- - - - -	Buffalo, N. Y.
Roscoe A. Garnet	- - - - -	Pueblo, Colo.
Howard Dean Gray	- - - - -	Wausem, Ohio.
Walter Harris	- - - - -	Salt Lake City, Utah.
James Berry Harrison, Jr.	- - - - -	Rolla, Mo.
Walter Edward Harrison	- - - - -	Salem, Mo.
Fred Wilson Hill	- - - - -	Mt. Vernon, Iowa.
Jacob Mordecai Hurwitz	- - - - -	St. Louis, Mo.
Earl Frank Insley	- - - - -	Kansas City, Mo.
Charles Taylor Jobes	- - - - -	Kansas City, Mo.
Howard Hiltz Jones	- - - - -	Mexico City, Mex.
Beele Nathaniel Lay	- - - - -	Denver, Colo.
Robert Lembcke	- - - - -	Fargo, N. D.
George Henry McDonald	- - - - -	Crown King, Ariz.
Frederick Mellor	- - - - -	Liberal, Mo.
George Gilmore Menefee	- - - - -	Stanford, Ky.
Christian R. Miller, Jr.	- - - - -	Sedalia, Mo.
Emery Lee Morrison	- - - - -	Auxvasse, Mo.
Ralph Collistus Nachtman	- - - - -	Junction City, Kan.
Lloyd Charles Newton	- - - - -	Gurdon, Ark.
Robert Graham Ormsby	- - - - -	Kansas City, Mo.
Ralph Norman Phillips	- - - - -	Denver, Colo.
Colwell Arba Pierce	- - - - -	Kansas City, Mo.
Harry William Lee Porth	- - - - -	Kansas City, Mo.
Cary Floyd Ramey	- - - - -	Georgetown, Ky.
Walter Elmer Roherer	- - - - -	South McAlester, Okla.
Harold Moore Seitz	- - - - -	Kansas City, Mo.
Hyman Aaron Seltzer	- - - - -	St. Louis, Mo.
Duncan Slater Smith	- - - - -	Rockford, Ill.
Martin Harmon Thornberry	- - - - -	Wanden, Mo.
Edward Loraine Tomlinson	- - - - -	Prescott, Ariz.
Richard Henry Townsend	- - - - -	Aspen, Colo.
Frank Lewis Truting	- - - - -	Bridgeport, Conn.
Wells Edward Trowbridge	- - - - -	Springfield, Ill.
George Thomas Twyman, Jr.	- - - - -	Independence, Mo.
John Gerhard Vogt, Jr.	- - - - -	Trenton, Ill.
Carlos Valencia	- - - - -	Sultan, Jalisco, Mex.
Edward Wallace Wiseman	- - - - -	Washington, D. C.



THE
COLORADO
TRIP



The Junior Colorado Trip

A REGULAR part of the mining course is the four weeks' trip, at the close of the Junior year, to various centers of mining and metallurgical activity. This year the class had the choice of two trips, one in Missouri and one to Colorado and Utah. About nineteen men selected the Western trip, and, accompanied by Professors Young, Copeland and Griswold, spent a very pleasant and profitable month in studying at first hand the practical application of those principles which had been taught in the class room.

Everywhere the most courteous treatment was received. From the General Managers down to the greenest muckers, everybody did their best to show the "Boys from Missouri" how things were done in the West.

Among those who rendered special assistance, and to whom especial thanks are due, are:



DR. JAMES UNDERHILL	- - - - -	Idaho Springs, Colo.
W. E. RENSHAW	- - - - -	Idaho Springs, Colo.
GEORGE COLLINS	- - - - -	Idaho Springs, Colo.
W. C. MINGER	- - - - -	Idaho Springs, Colo.
H. W. LOHMAN	- - - - -	Breckenridge, Colo.
P. C. GALLAGHER	- - - - -	Leadville, Colo.
JOHN CHAMPION	- - - - -	Leadville, Colo.
H. W. UTLEY	- - - - -	Leadville, Colo.
G. M. KERR	- - - - -	Leadville, Colo.
R. P. WINDSOR	- - - - -	Victor, Colo.
F. M. KURIE	- - - - -	Victor, Colo.
F. J. SHAVER	- - - - -	Victor, Colo.
J. F. MILLIKEN	- - - - -	Colorado City, Colo.
BEAUREGARD ROSS	- - - - -	Denver, Colo.
A. G. BROWNLEE	- - - - -	Idaho Springs, Colo.
T. W. COPELAND	- - - - -	Victor, Colo.
J. W. MORTON	- - - - -	Idaho Springs, Colo.
O. W. HOLMES	- - - - -	Garfield, Utah.
D. C. JACKLING	- - - - -	Salt Lake City, Utah.
LAFAYETTE HANCHETT	- - - - -	Garfield, Utah.



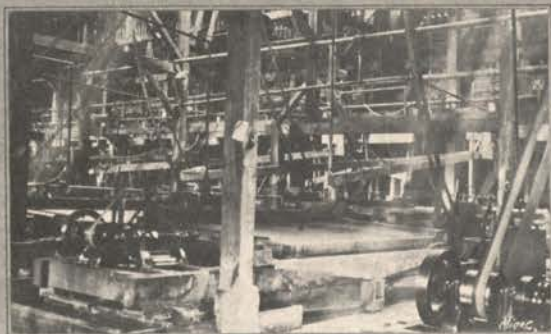
Mine Surveying
Salisbury Mine
Idaho Springs



Gem Mine
Shaft House



Going into the
Newhouse Tunnel



Fifty Gold Mines
Consolidated Mill
Blackhawk



Good Bye
Idaho Springs

Following will be found a description of the trip, as taken from a student's diary:

Sunday, June 14, 1909.—Met in Idaho Springs, all ready for work. Met Peck Beal, from Arkansas. In the afternoon we did our first mountain climbing; only went up five hundred feet, but it seemed like five thousand. Ate our first meal at the Colorado Restaurant, and in the evening went swimming in the pool.

Monday, June 15.—Started in to work, and spent the most of the day in the Gem Mill. Johnny Stewart wants to know why they run water over a Wilfley table when it runs right off again. A "gentleman of color" tries to sell Vogt a gold mine, but is not very successful.

Tuesday, June 16.—We went through the Jackson Mill, an amalgamating mill, an old cyanide mill, and the C and D Sampler. Prof. Copeland takes two hours for lunch. Johnny Stewart bewails the fact that there are no dances at Idaho Springs. Traughber and McNutt seek "club rates" up Virginia Gulch, but find that it is a union camp. In the evening Porri raises a rough-house at the boarding house and comes near being thrown into the bath tub.

Wednesday, June 17.—We go six miles on foot over the mountains to Black Hawk and Central City. Ten minutes for refreshments (liquid) at Nevadaville. Blake shows three of the fellows a short cut over the mountains. Short cut proves to be twice as long and twice as steep as the regular road. Bunten and Minor lead a raid on the post-card shop and play the slot machines. Spend the day going through the various mills of the district, and then over the hills again back to Idaho Springs.

Thursday, June 18.—Day off waiting for Prof. Young and the surveying instruments. McNutt tries to see if a Blake crusher will crush a note book. It will. Everybody goes to the moving picture show in the evening after which we attempt to serenade Prof. Copeland. Attempt does not meet with much success.

Friday, June 19.—Are shown through the Newhouse Tunnel. Good exercise pumping a hand car. Peck wishes he were home. At noon Prof. Griswold arrives and in the afternoon Mr. Underhill takes Prof. Griswold and the rest of the bunch in tow and shows them the principle geological features of the district. Many "what-nots" are found and Prof. Copeland ruins a pair of shoes and his disposition. Traughber finds himself a girl and Johnny Stewart looks on with envious eyes.

Saturday, June 20.—Prof. Young arrives with the Instruments and Mine Surveying starts. Peck and Porri eat all the lunch and the rest of the bunch go hungry. Part of the bunch do a little night work.

Sunday, June 21.—Surveying continues. Forman and Fraser and Prof. Copeland go to church. Everybody writes home to his best girl, except Harvey Smith. He hasn't got one.

Monday, June 22.—Go into the Newhouse Tunnel again and are hoisted up the Gem shaft. Eat lunch, then hike away over the hills in search of "what-nots." Find a "store" and buy "fina-soda-de-pop," which seems to make a great hit with Prof. Griswold.

Tuesday, June 23.—We cross over the snowy range to Montezuma. Minor and Bunton carry a suitcase but the rest travel light. Blake and Stewart try to make a hit with a girl on the Mt. McClellan train. Frank succeeds but Johnny gets stung. Get off the train at Waldorf, have our pictures taken and then start climbing. Climbed about two thousand feet but Peck swore it was ten thousand. Prof. Copeland, Peck and the two Smiths bring up the rear. Miller starts tobogganning but changes his mind and direction just in time. After a little walk of about fifteen miles

Waiting at
Silver Plume



Through
Eternal Snows
up the
Continental
Divide

Resting at
the Summit



Argentine
Pass

Gold Dredge
Breckenridge



Among the H. & H.
Roasting Pots
A. V. Smelter
Leadville

we arrive at Montezuma, just at supper time, and oh, what we did do to that supper. Played the town baseball team after supper and beat them 4 to 3. Minor does the pitching and Prof. Copeland pulls off some sensational plays at third. We sleep ten in a room and Porri gets into the wrong layer. Have a chance to show what we know about Mineralogy and most of us don't do it to advantage.

Wednesday, June 24.—Have our picture taken beside a pile of snow balls and then drive to Dillon, where we take the train to Aldora. Mr. Lohman took us all over the dredges and then "set-em-up" to a big feed. Forman and Vogt ate so much that they couldn't walk. Drove to Breckenridge where we saw some more dredges and where we met a lot of fellows from the Colorado School of Mines. Stayed up half the night swapping stories about the two schools.

Thursday, June 25.—Got up at three in the morning to catch a train that was said to be always on time. Train showed up about six-thirty. Mackey and Blake find a free lunch counter and make a breakfast on pretzels. The rest of us go hungry. Peck doesn't hear the day break. Train delayed by a burning trestle and we get into Leadville about eleven-thirty. All make a bee-line for the restaurant and make up for lost time. In the afternoon we go through the A. V. Smelter and make our first acquaintance with the "H. & H." process. In the evening Traughber and McNutt try to "cop a floozy" but get stung. Van Smith and Peck go to the moving picture show and startle the natives by cheering when the band plays Dixie.

Friday, June 26.—Start out early and go into the Yak Tunnel, where Harvey Smith finds a new geological formation, which turns out to be only candle grease. Are hoisted to the surface at the Little Johnny shaft and have a good dinner at the Ibex dining room. In the afternoon, under the leadership of Director Young, and with Prof. Copeland bringing up the rear, we start off in search of a pink hoist. We go up and down hill, back and forth, crossing and recrossing our tracks, but no pink hoist can we find. We find black hoists, and red hoists, blue hoists, and green hoists, and even a yellow hoist, but never a pink hoist. So, after three hours' careful search, we give up in despair and go through the Yak Mill instead.

Saturday, June 27.—Spend the day on the train for Denver. Van and Peck try flirting with all the girls, with indifferent success. Arrive at Denver about six P. M., and immediately begin an investigation of the geological conditions of the vicinity. Johnny Stewart finally finds a dance.

Sunday, June 28.—All went to church in the morning, and in the afternoon took the train for Colorado Springs. Van Smith leaves for Idaho. "Broke, broke, absolutely broke."

Monday, June 29.—Pecks meets some friends from Arkansas, and that is the last we see of Peck. We go through the Garden of the Gods and study the geological features, then hoof it back over the hills to Manitou and dinner. Blake meets his ladylove. We drink lots of iron water at the spring and then start hill-climbing in search of more geology. However, a band concert at Manitou proves too much of an attraction and geology is somewhat neglected. Jimmy Bunten spends \$1.75 at the barber's, and starts out to see his ladylove, only to find out that she is married. "Good evening, Mr. Bunten, let me introduce you to my husband."

Tuesday, June 30.—Went through the Cyanide Mill of the Golden Cycle Mining and Milling Company, and in the afternoon went up North

Looking
for a



Pink
Hoist



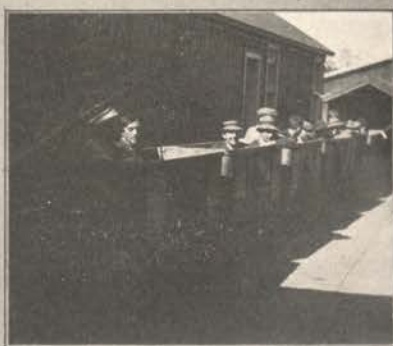
Geology - Colo. Spgs.



Talking It Over



At Cripple Creek



Entering Yak Tunnel

Garden of
The Gods



Geology
Trip

Cheyenne Canyon in search of a fault that didn't exist. Left for Victor at six P. M.

Wednesday, June 31.—Victor, Colo. Take the "Low-line" to the Elkton Mine and spend the morning going through the mine and the sorting mill. Geology in the afternoon and end up at Cripple Creek, where they have to build stone walls to keep the main street from falling down. Mackey gives a very interesting dissertation upon the relation of phonolite to nepheline-syenite. In the evening Bunten and Riede give a concert.

Thursday, July 1.—Get up early and climb the two-hundred steps to the Portland Mine. Spend all the morning in the mine, eat dinner at the hotel and rest until three o'clock when we take the train back to Colorado Springs. Some mighty good scenery on the way. Get into Colorado Springs about supper time and beat it right out for Pueblo.

Friday, July 2.—At Pueblo. Johnny Stewart finds an old friend and gets the best room in the hotel. Go through the Colorado Fuel and Iron Company's Works. Forman wants to know if they use forced draft in the blast furnace. Noon marks the end of the Colorado Trip and the bunch splits up. Part continue on to Utah, leaving over the D. & R. G. at noon. On the train Prof. Copeland undertakes to teach us how to play hearts but is beaten at his own game.

Saturday, July 3.—Arrive at Salt Lake City late in the afternoon.

Sunday, July 4.—Spend the day in seeing the sights and resting up. In the afternoon, go to the Tabernacle and listen to the organ.

Monday, July 5.—Go to Bingham and pack our suitcases about two miles up the hill to the hotel. Start down the Canyon, go through the Utah Copper Experimental Mill, and end up at Copperton, where we go through the Yampa Smelterie. After supper we watch the Fourth of July celebration.

Tuesday, July 6.—Get an early start and go up the Canyon. Get lost and have to double back on our tracks. See the open-cut mining of the Utah Copper and the Boston Con., and go through the prophory mine of the Boston Con. Try to go underground at the Highland Boy, but get stung. Go back to Salt Lake City on the evening train. Moving picture shows in the evening.

Wednesday, July 7.—Take the seven-thirty train for Garfield. Put in a mighty full day, and see the Garfield Smelterie, the Utah Copper Mill, and the Boston Consolidated Mill.

Thursday, July 8.—We are all "all in." Trip breaks up by unanimous consent. We all say "Good-bye until September."



The Mining Engineer

By George A. Packard.

YOU will already have learned from your work at the School of Mines that a mining engineer must have a very broad education. In order to recognize an ore when he sees it, he must be a mineralogist. To determine its value, he must be an assayer and chemist. To understand its occurrence, he must be a geologist. To be able to open up the mine properly, he must have an understanding of mining in its most restricted sense, and in order to make proper surveys of his workings he must be a civil engineer. To map these surveys and to make plans for his plant, he must be a draughtsman and a mechanical engineer, while for the purpose of providing satisfactory buildings to cover his plant, he must be something of an architect, and to work out the method of treatment of the ore he must be a metallurgist. As the plant grows and he wishes to take advantage of the possibilities of cheaper power, he must be a hydraulic engineer, and enough of an electrical engineer to supervise the installation of an electric plant and transmission lines. In order to prepare a satisfactory report, he must have a thorough knowledge of English and be able to use it, while to avail himself of technical literature in other languages, he should, especially if he is to do research work, be able to read technical German and French. But more important than these to the practicing engineer, is a sufficient knowledge of Spanish to enable him to employ Spanish-speaking labor, and to undertake work in Mexico and the countries to the south.

In addition to these are many other things which may not be learned at a School of Mines, but which are easily acquired if the student keeps his eyes and ears open after he gets out of college. He should familiarize himself with the laws relating to our natural resources, not only of the United States, but of the different States in the West, that is, the laws relating not only to mining lands, but also land which may be taken up for timber or for agricultural purposes, and the laws under which water rights are held. In this way he may often be of great advantage to the people who employ him.

A second point which it might be well to remember is the three different methods in which mining properties may be managed and worked. Looking at it from the point of view of management, large properties can perhaps only be worked by means of a large company incorporated with a large capital, and having a general manager, a consulting engineer, a superintendent and a staff of officers each of whom attends to the details of his own particular specialty. Such a property as the Nevada Consolidated could be worked in no other way economically. Other properties can often be worked advantageously by an individual when they could not be made to pay when operated by a company. Thus in Nova Scotia are properties which have paid well with the owner himself acting as manager, superintendent, bookkeeper, etc. Such a property would not pay the salaries of a president, manager, and several other officers; and even though one official is occupied only part of the time with his own duties, it is very difficult to get him to combine the duties of several other officials with his own. The third manner in which a property can be worked is by leasing, and this condition is met with often both at the beginning of the development and at the close of the history of mining property. A

leaser will follow narrow seams of ore until they perhaps widen out into bodies which will pay to work; while a company or the owner would hardly be able to work the property and pay expenses.

A mining engineer ought to know how to build a fire quickly, and I am told that the Professor of Metallurgy in one School of Mines gives instructions to his students on this point. The engineer should also be able to make bread and cook potatoes and meat and beans and similar simple things. Probably some of your young lady friends will be glad to give you instructions along these lines. The engineer should know not only how to cook, but how much food is necessary for both man and beast, so that in going out on a trip he may take with him reasonable amounts of the necessary articles. Besides that, he will find this knowledge useful in ordering supplies for the boarding house, which he frequently finds himself called upon to manage in connection with the small isolated mining properties. The management of a boarding house is in fact often much more difficult than the work of carrying on the mine, and a knowledge of business methods will be of use to him here as in his other work. Ordinarily a man consumes about one pound of vegetable and one pound of animal matter per day. Most men will use about two-thirds of a pound of flour per day. In traveling on the desert it is necessary to know about how much water is needed. The ordinary horse requires about sixty pounds of water per day, while a mule takes less. The amount of water necessary for a man must be determined in each individual case.

An engineer should also familiarize himself with the best and most economical method of building a good wagon road in the mountains. On a recent trip from the Sacramento to the McCloud River in California I had occasion to pass around a basin where a man had constructed an otherwise most excellent wagon road on the same level very nearly the entire distance around the basin, making the descent, from an elevation of 1,900 feet to the level of the river at 1,100 feet, in about three-quarters of a mile, with a grade of one to five. The distance across the basin is about four miles, and had he built his road on an even grade, he would have had a grade of only 200 feet to the mile, while the steep pitch resulting from the location which he had selected made it almost impossible for two horses to pull up more than an empty wagon.

How to handle horses is another thing the knowledge of which is advantageous to the engineer. He is sure at some time or another to be called upon to take drives out to distant properties, and very often is obliged to ride on horseback for long distances; and if he does much of anything in Mexico he is pretty sure to have to take his supplies packed on horse or mule-back. He should know how to harness a team, to put on a saddle; and while he may have someone to do his packing for him, he will find it very advantageous to be able to supervise it properly, and to know how to throw a diamond hitch. Probably some of the fellows who have been in the West during their vacations can show you how this is done, and I should advise you all to learn it.

More important than the knowledge of how to handle horses is the knowledge of how to handle men. This cannot be acquired in connection with your college work unless you are fortunate enough to have charge of some athletic team, or in connection with some of the fraternities. Proper handling of labor will invariably result in the saving of much friction and consequently a decrease in cost of your operations. But the handling of the laboring man is in many cases not the greatest problem which the mining engineer has to meet. More than one engineer has told me that his greatest difficulty is in handling his Board of Directors, so

that the work at the mine may be laid out with the view of producing the greatest possible ultimate profits. The Board of Directors, inexperienced in mining, frequently wishes to direct things in detail from their office two thousand miles away, and usually with a view to paying out the largest amount in dividends possible at the time of each particular meeting, rather than with a view to keeping up development and preparing for a prosperous future. The mining engineer should be able to meet all kinds of men on a basis which is satisfactory to those with whom he has business. Someone has recently defined a chafing dish as a frying pan which has got into society. Now, the mining engineer when he is out in the mountains naturally approaches the frying pan standard, but it is quite important that he should devote sufficient time in college to studies promoting general culture, and to reading and discussion afterwards, to develop enough of the chafing dish polish so that he may meet men who have had a broader education on their own ground when he visits his Board of Directors in the city.

A reputation for absolute reliability and strict adherence to the truth is in the long run as important as any other attribute, and the development of this trait may most advantageously be begun during the college days and continued throughout the engineer's career.

Fleming's Rule



THE SCHOOL OF MINES IS RAPIDLY GAINING AN INTERNATIONAL REPUTATION.
BELOW WE PRINT A LETTER RECENTLY RECEIVED BY THE SCHOOL FROM
A STUDENT OF A JAPANESE UNIVERSITY :

My Dear Unknown Friends:—

I have honor to write you this letter and to introduce myself. I am a student of the Department of Mining and Metallurgy (the Science and Technical College), Kyoto University, Japan. I am going to study mining and metallurgy, but I have much interest about metallurgy and ore dressing, so I wish to become a metallurgist. In metallurgy I am very fond of zinc, lead and silver metallurgy.

I wish you to become my acquaintance hereafter and to correspond each other.

As you know, zinc metallurgy does the recent progress and except your country and Germany, Belgium, there is none of important zinc producing country.

In Japan there are many mines of zinc and zinc blende carrying galena, which containing silver but by reason of no zinc extracting company in Japan, so these mines are worked as the silver mines.

Above reason there is no professor, scholar, books and essays about zinc, and lead, also silver. And the zinc blende of richly containing zinc is exported abroad, and much amount of metallic zinc is imported.

It is very sorry for me. So I wish to become a metallurgist of zinc, lead and silver, but it is very difficult to study them in Japan.

As you know, Japanese people were much obliged to your country about civilization, also industrial part and yet owe very much. As to zinc, lead, and silver metallurgy we wish to learn from your countrymen. We Japanese thank to your country at all time about present civilization.

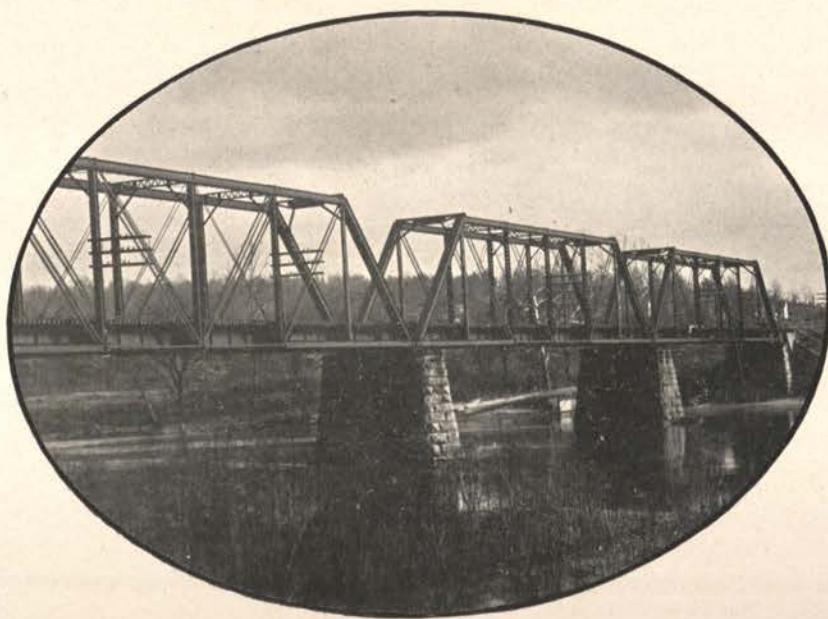
If I finish the university course I will go to your country to learn the theory and practice about zinc, lead and silver metallurgy. I wish to enter your school at that time.

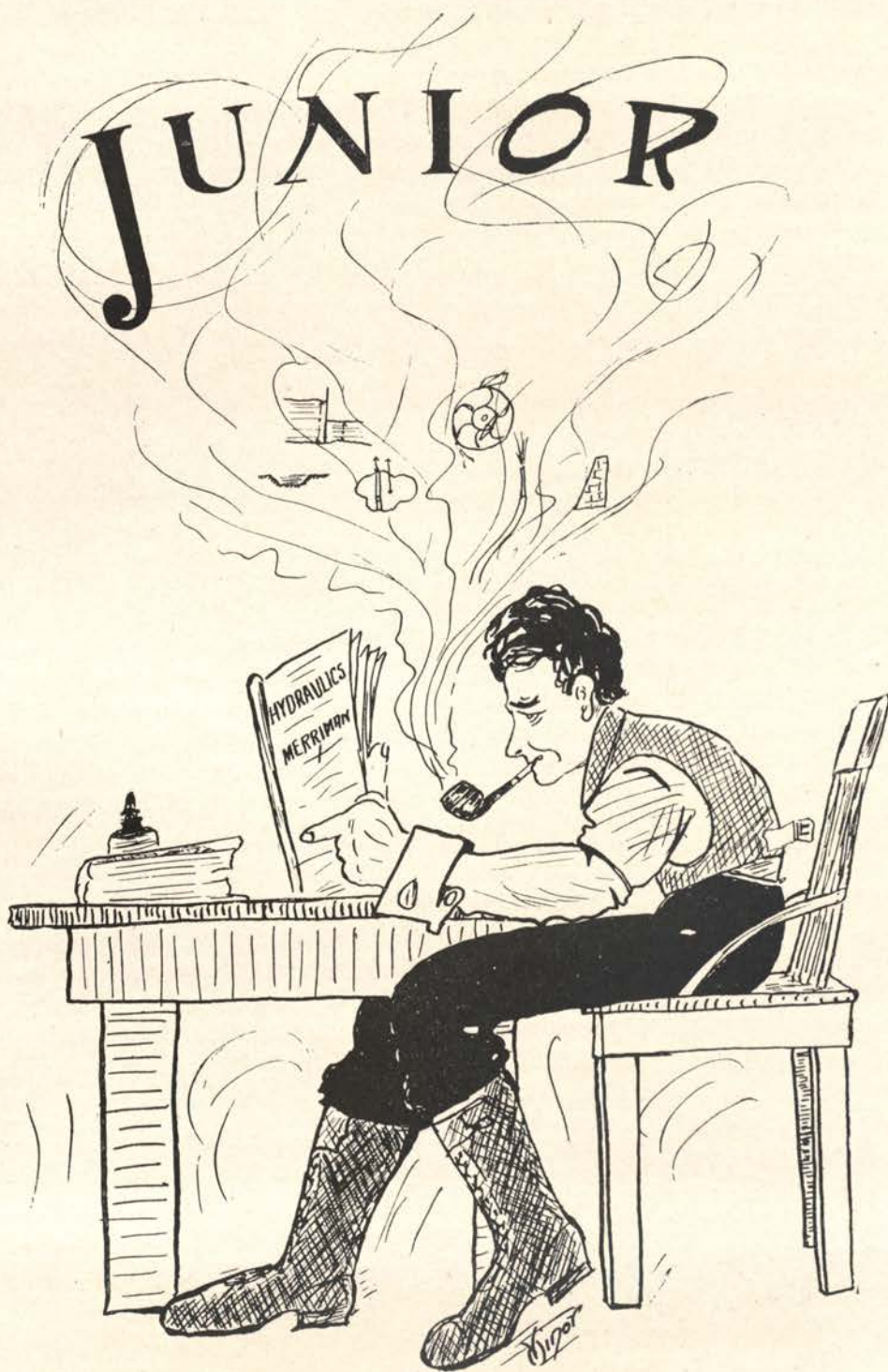
Would you kindly please teach me about the metallurgy of zinc, lead and silver and all of things if possible, and please write me if you have time.

If you wish to know about Japan I will tell you as much as I know. And if you wish to have the photographs or picture postal cards of Japanese landscape, I will send you as much as I can buy.

Yours very sincerely,

S. SONODA.





Junior Class History

JUNIORS at last! We've been all through the mill—analyzed by Gotty and found to contain valuable minerals; crushed when we were forced to don the little green caps and jeered at by the Upper Classmen; and we were sieved by the departure of many of our classmates at the end of the first year. The second year we were roasted by Dean, and now that we are Juniors, we are ready to be put through the smelter by Copeland.

We organized as a class soon after we arrived in Rolla, electing Mitchell as our class president and choosing red and white as the colors under which we should fight. Throughout the entire college year we did more than is expected of Freshmen in keeping up the college spirit. We studied diligently and at the end of the year felt well rewarded for our work when we realized how few "C's" and "F's" had been recorded against us.

Soon after our return to school the next fall we elected Macomber to lead the class in the task of taming the Freshmen that the Frisco conductors were lifting off from every incoming train, and depositing on the station platform. After we had the Freshmen tamed so that they could sit still for an hour at a time listening to a lecture, we called off all bets and gave a rousing good smoker to put an end to all hostilities that had existed between our class and them.

Returning to Rolla as Juniors we watched, with interest, the same dose of medicine given to the Freshmen that we had once received and had once given. Later in the year Red Blake was elected class president. Red has served his class nobly, at least he has served the purpose by keeping down any talk of a Junior Prom. The Seniors regret this. Now as the year draws to a close we are looking forward, with swelling chests, to the time when, by our "moustaches" and "beards," we may be known as Seniors.

During our stay in M. S. M. we have been represented in all the social and athletic events. For two years we have held the football captaincy and have had a representative on the All-Missouri team. Macomber has been given that honor for two consecutive years. The baseball captain for 1910 hails from the ranks of the Junior class; and it is to the class of 1911 that the Minstrel Committee looks for the End Men, the best feature of the Miners' Annual Minstrel.

So, in after years, when difficult undertakings are to be accomplished, let us hope that the men of 1911 will not be found lacking, and may they be as beneficial to others in the walks of life as they have been to their Alma Mater.



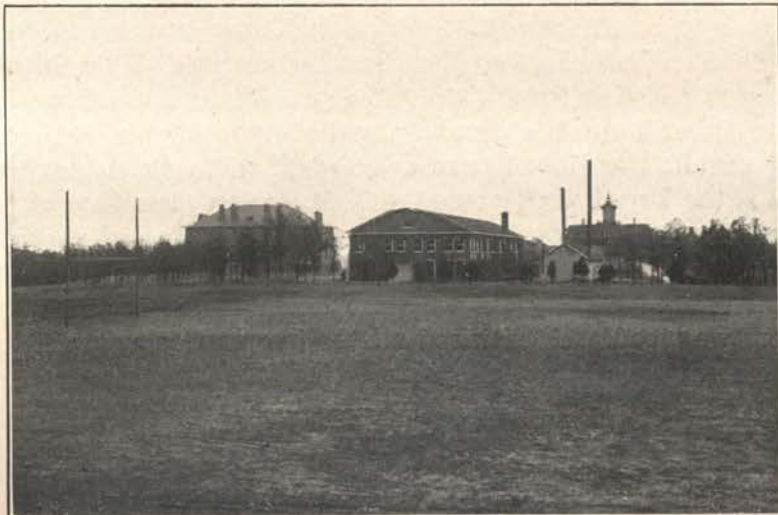
T. W. BLAKE, President.



DIRECTOR'S RESIDENCE

Juniors

ABBOTT, EDWARD REES	- - - - -	Mansfield, Ohio.
ALBERTSON, MAURICE	- - - - -	Aurora, Mo.
ALLEN, ERNEST JAMES	- - - - -	Forrest, Ill.
BAKER, CHARLES CAMERON	- - - - -	Rolla, Mo.
BEACH, JAMES KELLER	- - - - -	Dallas, Tex.
BINGHAM, RAYMOND ALEXANDER	- - - - -	Rolla, Mo.
BLAKE, TRUE WALTER	- - - - -	Chicago, Ill.
BOZA, HECTOR	- - - - -	Lima, Peru.
CHASE, JAMES HOWARD	- - - - -	Logansport, Ind.
COASKE, PAUL E.	- - - - -	St. Louis, Mo.
CODY, BENJAMIN HORACE	- - - - -	St. Joseph, Mo.
COPELAND, ROBERT NATHANIEL	- - - - -	Chelsea, Mass.
DYE, ROBERT EMMETT	- - - - -	Joplin, Mo.
ELMORE, CARLOS	- - - - -	Lima, Peru.
ENGELMANN, EDWARD WILLIAM	- - - - -	St. Louis, Mo.
FLYNN, FRANK JAMES	- - - - -	St. Joseph, Mo.
FORD, HAROLD PERCY	- - - - -	St. Joseph, Mo.
FORRESTER, DAVID LAWTON	- - - - -	Rolla, Mo.
GARCIA, HERMAN	- - - - -	Mexico City, Mexico.
GILCHRIST, K. P.	- - - - -	Lathrop, Mo.
GROVES, FRANK W.	- - - - -	Des Moines, Ia.
HARRIS, DEANE DWIGHT	- - - - -	Rolla, Mo.
HIRDLER, EVA ENDURANCE	- - - - -	St. Louis, Mo.
JAMES, IVORY SMALL	- - - - -	San Antonio, Tex.
KEELYN, JAMES LAWTON	- - - - -	Evanston, Ill.
KURZ, J. ADOLPH	- - - - -	St. Louis, Mo.
LINDAU, SAM PAUL	- - - - -	Liberty, Mo.
LUNAK, OTTO ALLEN	- - - - -	St. Louis, Mo.
McGOUGHRAN, JAMES E.	- - - - -	Rolla, Mo.
MACOMBER, SUMNER COOLEY	- - - - -	Des Moines, Ia.
MAVEETY, ROSWELL HALL	- - - - -	Cincinnati, Ohio.
MITCHELL, ROBERT BRUCE	- - - - -	Walker, Mo.
NASON, STANLEY	- - - - -	West Haven, Conn.
OWEN, HARVEY SKIDMORE	- - - - -	St. Louis, Mo.
PUDEWA, ARTHUR G.	- - - - -	Chicago, Ill.
RAJ, SHIV	- - - - -	Lahore, India.
RANDOLPH, OSCAR ALAN	- - - - -	Kansas City, Mo.
SHEFFER, MARK	- - - - -	Maisonpol, Russia.
SPRAGUE, ROY ELLIOTT	- - - - -	Farmington, Mich.
TEDROW, HARVEY LOUIS	- - - - -	St. Joseph, Mo.
TOWNSEND, FRANK EDGAR	- - - - -	Belgrade, Mo.
TOWNSEND, RICHARD H.	- - - - -	Aspen, Colo.
WALKER, JOHN PERRY, JR.	- - - - -	Rolla, Mo.
YOUNG, CARL DEUEL	- - - - -	Fargo, N. D.
ZIMMERMAN, GEORGE HENRY	- - - - -	Romney, W. Va.



Southeast Missouri Junior Trip

WITH an even dozen in the party we left Rolla on No. 10, June 10, 1909. Some of us regretted that we were unable to make the Colorado trip with the rest of the bunch, but after we had gotten well into the beautiful Southeast Missouri country we were glad that we had taken the Southeastern course instead of the Western.

We spent the first day in South St. Louis investigating the rock quarries and wonderful sinks found in that region. The most interesting feature of this day's trip was the "free for all" scrap among the convicts of the convict quarry. They seemed to know that the day had been going rather slow for us and that we needed something to liven it up.

There being no hard drinkers in the crowd, we were all up and ready to depart for Vineland, Mo., early the following morning. We stopped off here to view the short end of the famous fault breccia of South Missouri. Just exactly why it is famous we were never able to find out, but the boarding house and swimming pool nearby did make it quite attractive from a distance. Caples, feeling rather stiff, choose to walk from DeSoto to Vineland, a distance of about eight miles. Cape is an industrious chap.

We were so delighted (?) with the first stop that we were expecting a very joyful (?) time further on down the line. Imagine our surprise when we stopped off at a most beautiful summer resort and were ushered to the second floor of a comfortable summer hotel. Luckily there were few other guests in the hotel at the time and our nightly pandemonium on the second floor disturbed only a few.

Our first trip in this region was to Graniteville, where we viewed with wonder the gigantic mountains of granite and the well equipped quarries from which this high class granite is taken out. While being shown some small dykes in the granite mountains, our classmate, John Bodman, suddenly called the attention of the class to a space on a distant mountain left by the cutting away of the timber for the purpose of putting in a power line and exclaimed, "Oh, see the large dyke over on that hill." Now if Porri or Stewart had been on the trip we would not have been surprised, but Bodman sure did astound all the learned men on the trip. By way of variation we decided to get lost on Shepherd Mountain on the return trip that day. We were not satisfied with getting lost but prayed for rain so that we might swim home. Did it rain? Well, from the effects of erosion on our features and garments, one not well up in Geology would have thought we had been exposed to one of old Noah's floods. The following day, Sunday, the roof of the hotel looked like a tramp's clothes line. Poor old Jojo! He had not figured on this rain overtaking him while en route, and consequently his wardrobe was so scant that he was forced to remain in bed while his clothes were drying, but if the boys hadn't poured more water on them they would have dried much sooner than they did. A good swim at the shut-in, and church service in the evening ended the Sabbath.

On the second day out we were taken to the top of Pilot Knob and there we stood and criticised all the known Geologists of America, finally agreeing that magmatic segregation was the direct cause of the ore being there. Since then we have told all our classmen to agree on the same point especially on a quiz. Upon this day did John Bodman see, running across the road, a "whole litter of turkey chickens." John sees well. Later in the day while at the shut-in one of the fossil hunters



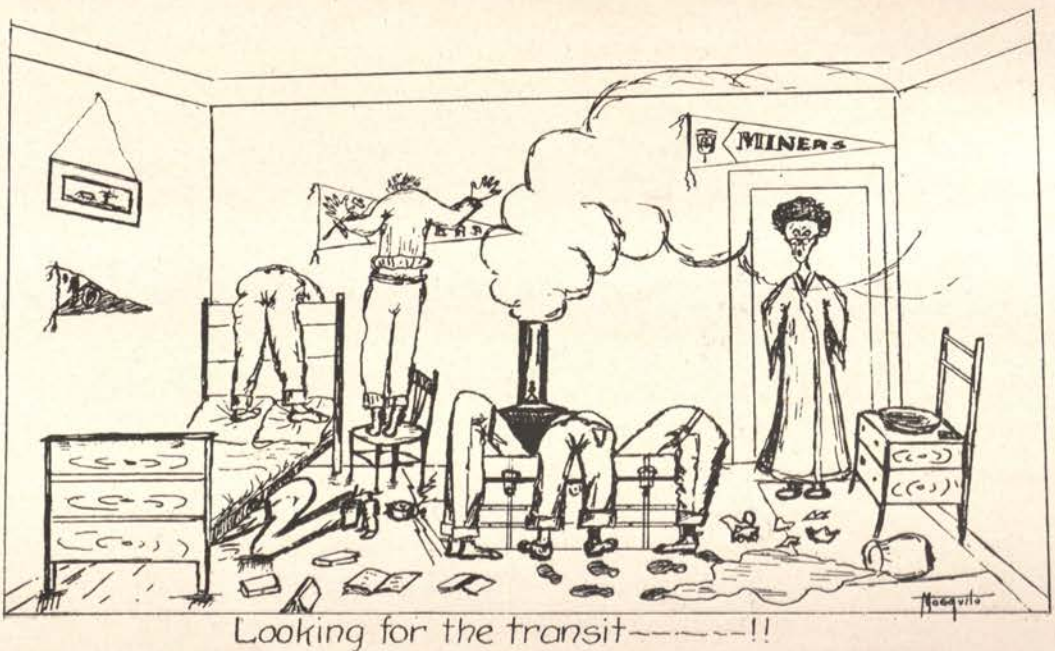
"found" a perfect fossil. He showed it to the Professor, who immediately recognized it as one he had missed from his collection in Rolla. He said it had been his pet and that he had been long looking for it. "Good detective, was he not?"

The next day we prospected on Iron Mountain for dewberries. Also, we decided after a long period of troublesome thought that if the phosphorous and water were not present in the locality, the iron bodies might be very profitably worked. We thought that this conclusion was original with us, but have since learned that others had decided the very same thing. On the whole trip we collected many specimens of this, that and "what-not."

At Savoy we excused the Professor from the rest of the trip and proceeded to Bonne Terre. There we soon discovered our Mr. Howe playing tennis, much to the amusement and eventually disgust of the natives. Some of us sought cheap lodging houses and others cheaper. Howe condescended to show us how to mine survey. He said he preferred tennis to work, but would show us a few points in the mine surveying. Some fast work was done—getting out of the mines after the work was accomplished. One feature of the surveying trip was the rat hunt in one of the mines.

Dr. McRae joined us at Bonne Terre and gave us some good information about the use of "juice" for power in this region. We visited mills at Des Loges, Elvins, Esther, Flat River. We were fortunate in getting to see some of the largest and best equipped lead mills in the world.

We were shown many kind favors by the management of the St. Joe Lead Company and we cannot say enough in appreciation of the kindness of Mr. Delano of Bonne Terre, Mr. Steinmetz of Des Loges and Mr. Anderson of St. Francis, all former M. S. M. men now holding good positions in that district.



SOPH'S



Sophomore Class History

THE history of the class of 1912 begins with the last week in September, 1908, when into Rolla there came a large and husky bunch of fellows to form the now redoubtable class of 1912. We held our first meeting on a dark and stormy night under the dripping Frisco water tank. With McKibben leading us we routed out the lonely Sophs, but we paid dearly for this one successful night, for henceforth we were forced to undergo heavy penalties. So heavy were they that for a week after it was difficult for the "enemy" to locate any of us after sundown within a mile of Rolla. These preliminary skirmishes continued until a time was set for the final battle. In this we were defeated only after a hard fight, in which we had to battle against the upper classmen, as well as the Sophs.



A. W. HACKWOOD, President.

In athletics we have certainly distinguished ourselves, for did we not play the Sophs to a tie game of football? In basketball and track we lost by a narrow margin, but in baseball we gave them a good trimming.

After a good summer vacation we returned to Rolla last September to renew the fight for an education. We felt that we were real Sophs, and we proceeded to demonstrate to the "world at large" that this was the case by going to the nearest clothing store and purchasing the long-wished-for corduroys. Some chose yellow corduroys, others gray, and yet others green, the latter seeming to be the most popular tinge.

Our next move was to assemble and select a leader. This time we met in Norwood Hall at the close of a school day, and not under the water tank after nightfall. After much discussion among the class members, Harold Blake was elected president and with such a husky at the front we immediately began to lay plans for "educating" the new breed which had been cast into our midst.

On that very night and on nearly every evening during the following week Freshmen might be seen walking Indian file down the streets, singing, barking at the moon for the amusement of the upper-classmen and the populace in general. The blanket cure was administered to the unruly ones. All this but made us fitter for the coming fray which was to end the struggle, while it cowed our poor ignorant rivals. In the meanwhile our posters were gracefully adorning every available and unoccupied space on the walls and walks of the town. From this time on our Soph squads patrolled the city from dusk till dawn in order to prevent any move on the part of Freshmen toward putting up their posters or defacing ours.

A full and detailed description of our final victory would be superfluous here. It is sufficient to say that the Freshies were very willing to

don the little green caps and were allowed to run at large after they had promised good behavior for the future.

When we issued the challenge to the Freshmen for the annual football game they eagerly accepted, only to go down in defeat. In speaking of football it might be well to here mention that our class this year turned out four "M" men. In other branches of athletics we have shown our loyalty to the school by supplying men who have done some noteworthy work on the various teams.

The above does not give an idea of what we have done in school work but since most of us are yet in school we must conclude that the school work has been up to the standard of the class.

This is all we can boast of this year.



SEE TEDROW FOR
AN EXPLANATION.

Sophomores

ANDRUS, D. E.	Rockford, Ill.
BAUMBACH, JOHN KENNETH	Maplewood, Mo.
BILDERBACK, ALEXANDER SCOTT	Kansas City, Mo.
BLAKE, HAROLD	St. Louis, Mo.
BLAND, JOHN LILBURN	Lebanon, Mo.
BTRIBACH, OSCAR NICHOLAS	St. Louis, Mo.
BROUGHTON, EUGENE HARDING	Jefferson City, Mo.
CAPLAN, FRANK	St. Louis, Mo.
CONOVER, CAIRY C.	Carrollton, Mo.
COOVER, LOUIE L.	Springfield, Mo.
COPELIN, LEONARD STEPHEN	Great Falls, Mont.
CRONK, ARUTHUR HARRISON	Omaha, Neb.
CUSHWA, CLAUDE	Independence, Mo.
ELBELT, WILLIAM HENRY	St. Joseph, Mo.
FOGARTY, EDMOND ALLEN	Sandcliffs, Mont.
GERINGER, OTTO GEORGE	Chicago, Ill.
GLEASON, AUGUSTUS WILLIAM	Chicago, Ill.
GRAY, WALTER BERRY	Louisiana, Mo.
HACKWOOD, ARTHUR WELLESLEY	Baxter Springs, Kans.
HAYES, DALE IRWIN	Rock Island, Ill.
HECHT, LEON MORSE	Nashville, Tenn.
HERNDON, FRANK	Lebanon, Mo.
HOLLISTER, SCOVILLE EDWARD	Marshall, Mo.
IRWIN, JOSEPH STEWART	Louisiana, Mo.
KATZ, EDGAR DOUGLAS	Kissimee, Fla.
KATZ, HOWARD M.	Kissimee, Fla.
KINNEY, ROBERT NOEL	Rolla, Mo.
KRANZTHOR, FRED	Eagle Pass, Tex.
LIGHTMAN, MORRIS	Nashville, Tenn.
LYNTON, EDWARD	Rolla, Mo.
LYONS, CLYDE	Springfield, Mo.
McFADDEN, EDWIN COOK	Chicago, Ill.
McKIBBEN, HAROLD DENNIS	Kansas City, Mo.
McNAIR, STUART STRATHY	New York, N. Y.
MILLER, WINLOCK W., JR.	Kansas City, Mo.
MOLYNEUX, GUY M.	Sandpoint, Idaho.
MORRIS, EDWIN ROBINSON	Jefferson City, Mo.
MYERS, WARREN PRESCOTT	Prescott, Ariz.
NAYLOR, ARCH WAUGH	Rolla, Mo.
PORRI, WILLIAM	St. Louis, Mo.
PRATT, GEORGE H.	Detroit, Mich.
RADCLIFFE, DONALD NEWSON	Rolla, Mo.
RAIBLE, NORMAN WILLIAM	Hannibal, Mo.
ROBINSON, EUGENE CHARLES	Independence, Mo.
SCHILLING, GEORGE WILLIAM	Freeport, Ill.
SCHMICH, MATT, JR.	Freeport, Ill.
SHAW, HARRY	St. Louis, Mo.
SHAW, THOMAS EDWARD	West Haven, Conn.
SHERRY, HOMER KENT	Lyndon, Kans.
SMITH, CHARLES ALBERT	Philadelphia, Pa.
SMITH, MARSHALL RAYMOND	Rolla, Mo.
SMITH, WILLIAM BRYCE	Joplin, Mo.
STEPHENSON, WILLIAM PITTMAN	Nevada, Mo.
THOMAS, GEORGE SYLVESTER	Chicago, Ill.
TWAY, ROBERT RAYMOND	Springfield, Mo.
USTICK, EDWARD THOMAS, JR.	St. Louis, Mo.
WEMHANER, OSCAR CHRISTOPHER	Warsaw, Ill.
WILLMOTT, MILLER E.	Liberty, Mo.
WRIGHT, CLARK WATSON	St. Louis, Mo.



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Freshman Class History

IN the fall of 1909 there came to Rolla many new men. Men hardened by practical experience, seeking theoretical training, and men fresh from Seniority of High Schools, all joined together to cast their lot with M. S. M., their new Alma Mater.

We came in gladness and joy into a land of unknown difficulties to gain honor and greatness among strangers. Many, we knew, would be the obstacles in our paths; many the hardships (Green Caps) to bear. Our way thus far has naturally been difficult, but we wouldn't miss the pleasures of the Freshmen year even though we had known the difficulties were going to be many times as great.

We dropped into Rolla in ones, twos, threes, and in groups of several. For many days (it seemed years) we were forced to swallow our High School pride and be subjected to various "tortures" merely for the entertainment of our elders, the Sophs, and also because it has been a custom to put the straight rule down the Freshmen backs. A diary kept by a Freshman during the first few weeks of school may be of interest.

Sept. 8. Have been busy and therefore have not been able to keep a complete diary. Have been out every night with the reception committee. Strange that we always travel at night isn't it? Am having a fine time. Last night we painted "To Hell With 1912" on Schuman's wall. Much comment among the Sophs.

Sept. 9. Good class in now. Had a meeting today and selected Pitts Bland to lead us in our fights. Decided to meet back of Eighth street and get the Sophs. Only a few present. We fixed the sign and the Sophs fixed us. We were made to exercise our vocal organs. Alas.

Sept. 11. Last night they got us again and started to the pond with us, but after much debating among themselves, decided to treat us to a "toss-up." Oh, how nice! It was a sure case of "Heads I win and Tails you lose."

Sept. 17. Days are growing monotonous; nights hideous. Am looking forward to Green Cap Day. The Sophs' poorly designed poster appeared today. 'Twas useless to answer the vulgar thing.

Sept. 19. 2:00 p. m. I can see Freshmen with bundles under their arms hiking for the country. Must go.

3:30 p. m. We, thirty-five strong, are beating it for Panther Bluff.

5:00 p. m. Swimming is fine but the lunch is about all gone.

7:00 p. m. All are singing and in good spirits. We sleep on a fodder bed tonight.

10:00 p. m. A great noise is heard above. All scatter for the woods in "opposite" direction from whence the noise comes. Scouts report only three Soph spies.



J. C. BOYLE, President

Sept. 20. 2:00 a. m. Shorty and Doc have a corn fight. They are severely chastised and sent back to the fodder.

7:30 a. m. All up and off for Rolla, much the worse for our sleepless night in the fodder.

8:30 a. m. The Sophs are given a touch of high life which is promptly returned with interest. The Sophs were met and fought, but we were conquered. Next in order were green caps and snap shots. The Sophs treated us to a fine smoker and we are now friends, the Sophs and Freshies.

Oct. 20. We gave our banquet to the Sophs. Cider and pillow fights were the main issues.

Nov. 26. Green caps are beginning to disappear with the coming of cold weather.

To sum up affairs, we think we are not at all a bad class. True, we have not done wonders in athletics, furnishing only two Varsity men, yet class records show us to be quite equal to our friends the Sophs (former Freshmen) in school work. Although beaten for the time by the Sophs, not once did we show the white feather, but fought hard to the "temporary" finish. So during the rest of our college life we will pull together and make the class of 1913 one to be long remembered and patterned after. Always for M. S. M.



GOING TO CLASSES.

Freshmen

AGNEW, SAMUEL LESTER	- - - - -	Doe Run, Mo.
BARRETT, W. H., JR.	- - - - -	Weir, Kan.
BEACH, PHILIP SYDNEY	- - - - -	Prescott, Ariz.
BENHAM, WILLARD MILES	- - - - -	Cobden, Ill.
BLAND, CLARK C.	- - - - -	Rolla, Mo.
BOUCHER, LEO	- - - - -	Marshalltown, Ia.
BOYLE, JOHN CLARENCE	- - - - -	Trinidad, Colo.
BRAMSON, CHARLES	- - - - -	New York, N. Y.
BREWER, JESSE H.	- - - - -	Batavia, N. Y.
BREWER, WILLIAM FRANCIS	- - - - -	Carlinville, Ill.
BROOKS, HERBERT IVEY	- - - - -	Sheridan, Wyo.
BROWN, ALVIN BOVELL	- - - - -	Sedalia, Mo.
CASTILLON, TIRSO	- - - - -	Torreón, Mexico.
CEPEDA, MIGUEL LEON	- - - - -	Jimenez, Mexico.
CLAYTON, BERT	- - - - -	Rolla, Mo.
CLAYTON, CHARLES YANCEY	- - - - -	Hannibal, Mo.
CODY, FRANK WESLEY	- - - - -	St. Joseph, Mo.
DICKSON, FRANK PAUL, JR.	- - - - -	Kansas City, Mo.
DONALDSON, JAMES FLOYD	- - - - -	Kansas City, Mo.
FAULKNER, WARD	- - - - -	Checotah, Ok.
FENDORF, CHARLES ERNEST	- - - - -	Tuscumbia, Mo.
GARRETSON, LEONA BELLE	- - - - -	Rolla, Mo.
HALLEY, EARL	- - - - -	Auxvasse, Mo.
HANES, NEIBERT BARTRAM	- - - - -	Springfield, Ill.
HOPKINS, JAMES	- - - - -	Ramey, Pa.
HOUGHTLIN, WILLIAM HARRY	- - - - -	Jerseyville, Ill.
JOHNSON, FRANK LINDLEY	- - - - -	St. Louis, Mo.
KADELL, CARL PETER	- - - - -	St. Louis, Mo.
KLINE, ANNIE E.	- - - - -	Rolla, Mo.
KNICKERBOCKER, GOULD	- - - - -	Clymers, Ind.
LEASE, LA VERE	- - - - -	Larned, Kan.
McFARLAND, RUSSEL	- - - - -	Crawfordsville, Ind.
MARSHALL, HOLMAN	- - - - -	Sioux City, Ia.
NEEDLES, ENOCH RAY	- - - - -	Kansas City, Mo.
NOWLAN, HARRY H.	- - - - -	Cheyenne, Wyo.
RUNNELS, RALPH WILLARD	- - - - -	Rolla, Mo.
SEWARD, J. F.	- - - - -	Hillsboro, Ill.
SICKLY, ROBERT GLENN	- - - - -	Iola, Kan.
SMITH, CLYDE OTHELLO	- - - - -	Joplin, Mo.
TAYLOR, BRIGHT HOPKINS	- - - - -	Newport News, Va.
THRUSH, HARRY ALFRED	- - - - -	Warsaw, Ind.
TIERNAN, JAMES PETER	- - - - -	Kansas City, Mo.
WEBSTER, JOHN NIXON	- - - - -	Creston, Ia.
WHITELEY, HAROLD EARL	- - - - -	Kansas City, Mo.
WILSON, ERNEST C.	- - - - -	Mt. Vernon, Ind.

Special Students

GERINGER, JOHN CHARLES	- - - - -	Chicago, Ill.
HASSETT, JAMES LESTER	- - - - -	Papillion, Neb.
MAXWELL, ARTHUR BYRON	- - - - -	Chico, Tex.
JAMES, JAMES RUSH	- - - - -	Springfield, Mo.
LEAVITT, JAMES BLAINE	- - - - -	Houston, Mo.
PURDON, ARTHUR	- - - - -	St. Louis, Mo.
ROBERTS, P. A.	- - - - -	Joplin, Mo.
WILSON, JAMES	- - - - -	El Oro, Mexico.
WILSON, THOMAS	- - - - -	El Oro, Mexico.

Green Cap Day

IN union there is strength. This, at least, is what the Freshmen decided after they had been roughly handled by the Sophs during the first week of school. So they united and when the challenge for the class fight was issued they knew their real strength and the motto of each was, "Whip the Sophs."

On Sunday afternoon, September the nineteenth, the entire class gathered at Panther Bluff. Serious business did not appeal to them at once, so all went in bathing and had a great time. Towards night it turned chilly, and they went foraging for wood, enough of which was found to make a roaring fire near the spring. Here they sat and ate supper—that which they had swiped from farmers along the road and that which they had brought with them. And while they ate they discussed ways and means for defeating the Sophomores next day.

It was a long discussion, but at length ended. Then came the problem of sleep. Not so much how to sleep or where to sleep, but what to sleep on. An idea flashed from some fertile brain and a mad rush was made to a near-by cornfield, where enough shocks of corn were found to make beds for all of them. Soon all were wrapped in the arms of Morpheus.

About midnight a series of shouts brought them to their feet, and thinking that the Sophomores had discovered their hiding place, search parties were sent out. Nothing was discovered whatever, so they all went back to their dreams of what they would do to their enemies next day.

Early Monday morning they were astir, and at six thirty, full of hope, but empty of breakfast, were on their way back to town. In an old barn outside the city limits they left their coats and hats, and forming in battle array, marched boldly through the streets of Rolla, and up to the campus, the chosen battle ground.

The Sophs, meanwhile, had not been idle. Though they outnumbered the Freshmen almost two to one, and did not leave town, they had been careful and remained together as much as possible.

Bright and early Monday morning they lined up in the south end of town and marched up to the campus to await the arrival of the small, but scrappy class of 1913. With them they carried paddles, paint, rope and all other implements of war necessary to make their victory complete. They took their stand at the north end of the campus opposite Chemical Hall.

The Freshmen were slow to arrive and some thought they had deserted. About eight-thirty came the news that they had been sighted, this at once arousing considerable interest. Not only students and town people, but dignified professors came running to see the fun.

The Freshmen took their position at the south end of the campus. Blood was in their eyes and determination on their faces. When Rube Morgan gave the word, there was a rush and a thud. Each man had picked his victim and they were in for it, to do or be done.

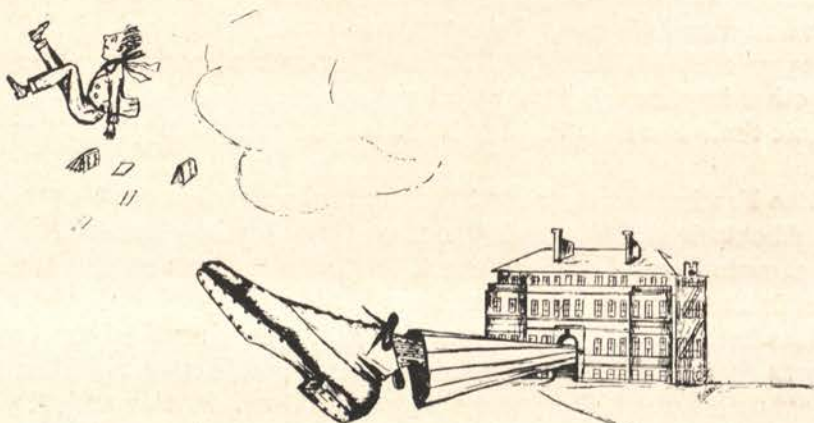
It was a pretty fight and lasted longer than was expected. But after a while the great odds told, and one Freshman after another was brought to the side lines securely bound, until the whole class was eventually tied up. Decorative coats of paint were then administered, trouser legs rolled up, clothing removed from some and added to others—in fact, every customary change was made. Some Freshmen balked, of course, but a few delicate jolts from a Soph's paddle reduced them to a sufficiently meek condition.

Down through Main street they marched single file and came to a halt opposite the post-office. Speeches were made and cheers rang for several minutes. The vanquished were then made to purchase the little green caps that had been provided for them.

Only two men were slightly injured in the fray, one of whom still declares he "could have carried the ball over the line had they given it to him." The other went peacefully to sleep and remembers the rush only as a dream.

Of course our fair co-eds did not take an active part in the fight. Since it was necessary for them to be represented, Messrs. Van Smith and Tedrow impersonated them and so true to life were they that strangers would not have detected the fraud. (If you do not believe this, compare the photographs.)

Thus the 1910 fight ended. It was the same old story. The Freshmen were sure to lose this year, just as they, as Sophs, are sure to win next year. So, cheer up Freshmen! If your small class can win without assistance, you will have done something of which you may be proud.



The celebrated ten hours kick



GREEN
GAP
DAY



The Freshman Smoker

FOLLOWING the custom of preceding classes the Freshmen gave their annual smoker to the school on the evening of October twenty-third.

Here the new men were given the privilege of meeting the entire school and the faculty, and everyone availed himself of this opportunity. Pipes were filled and midst the fragrant aroma from three hundred fuming "hods" formality was thrown to the winds and everything was done to promote good-fellowship and better acquaintance.

The evening's entertainment consisted of music and dancing, followed by various and sundry athletic events. The music was furnished by the school orchestra, who had very obligingly donated their services for the evening. Although there were no ladies present each and every participant seemed to enjoy himself immensely, and it was with difficulty that the floor was cleared for the literature fight which followed.

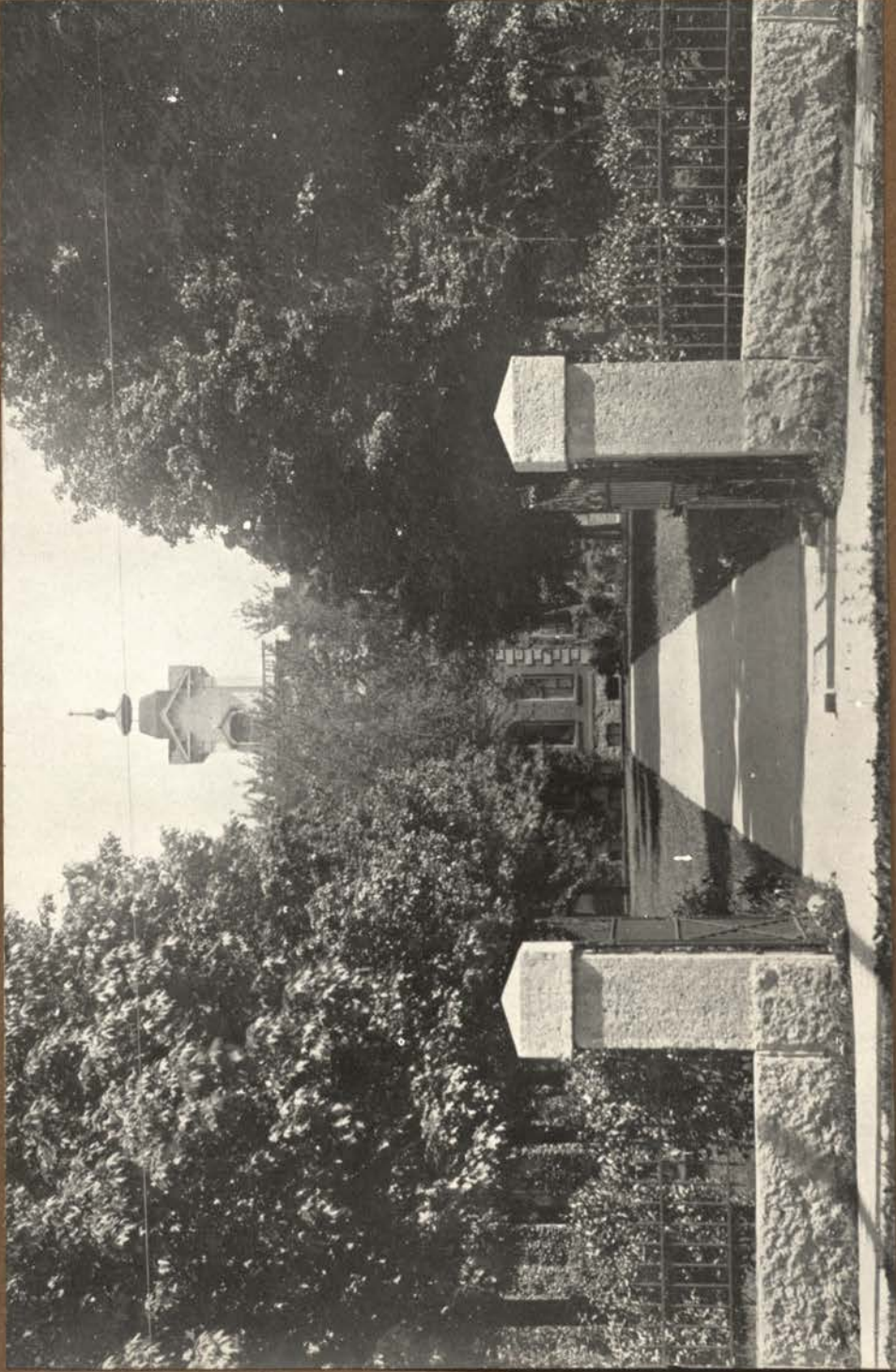
Teddy Lynton and Webster were the combatants in this event. They were blindfolded and made to kneel on a mat with one hand on a mark and in the other was clutched a tightly-rolled newspaper. The object of the performance was to see who could swat his opponent oftenest and hardest. Many hard raps were delivered during ten minutes of clever sparring, and it was only after the papers were torn to shreds that the decision was given, it being a draw.

A pillow fight was next, Seward and Bland being the entertainers. With one hand tied they were placed astride poles and went to it with a pillow in the free hand. After several minutes of this exciting sport the contestants were allowed to come down from their perches and attention was turned toward the boxing match by Gilchrist and Agnew. On account of his greater weight and experience in boxing Gilchrist easily out-sparring his man and got the decision. Agnew kept him awake during the entire bout, however, and showed himself to be a stickler.

A rock-drilling contest was the event of the evening. Boyle and Maxwell had issued a challenge to any pair in the school and found a tough proposition on their hands when Joe Bowles and Wilson accepted. The former team had done more work together, and consequently their five minutes of drilling showed a deeper hole, and the Freshmen were victorious against the whole school.

Agnew and Lightman furnished amusement for the next few minutes with a wrestling match. After some clever work Lightman won the first fall in one minute and a half. Agnew got the second fall in eight minutes by equally clever work. Both men were now exhausted and the third fall, after lasting ten minutes, was called a draw. This concluded the athletic end of the evening.

Next came darkey songs by Van Smith and guitar solos by Prof. Forbes and Elmore. All were exceedingly good and everybody has come to feel that no smoker could be complete without the assistance of these accomplished musicians. As usual, Red Forrester delighted the audience by his cleverness in the clog dance. An abundance of coffee and sandwiches was served just before disbanding and after giving three rousing cheers for the Freshmen, one of the most successful smokers in recent times was drawn to a close.



THE SOUTH GATE

Mining an Up-Hill Business

ALL is not gold that glitters. The young engineer does not find his path strewn with roses, nor his pockets filled with shekels. Even after ten years out of college he frequently finds his boots run down at the heel and his soles so thin that he becomes foot-sore in quest of a "job." Should he be less ambitious his trousers become thin and make a poor cushion. It is an uphill business from the outset, and the young man who expects to rise in the profession of Mining Engineering will have to struggle hard; he must work with a will and have his employer's interests at heart; he must be sociable; he must make friends among the best men in the mining world, and especially the best citizens in the community. Good friends are a splendid asset.

Don't give up! Have the energy and persistency of the tumble bug, which, by the way, reminds me of a story I once heard: A captain of industry, whose early career as a mining engineer had been a series of struggles which included a few successes and many failures, was relating his experiences to a young graduate while in the smoking room of a Pullman on a California Express. "It was a hard fight" he said, "and many a time I was so discouraged that I came near giving up in despair but the tumble bug pulled me through every time."

"The tumble bug," exclaimed the young engineer, "I do not understand you."

"Very likely you don't, my friend," chuckled the man of experience. "I'll tell you about it: My father took me out of school at the age of twelve, and sent me to Arizona to spend a year on a ranch, thinking that it would improve my health. I was ambitious and therefore took some books with me. At the ranch I met a Professor of Entomology who was getting a collection of insects for an eastern college. We became the best of friends and I confided in him all my childish joys and sorrows. I became discouraged when studying alone.

"One morning when walking with the Professor, he, seeing that I seemed much distressed in spirits, asked me to explain. I told him that my arithmetic bothered me and that I could make no headway; I intended to give it up. 'Well, my boy, that is too bad,' said the professor. 'Suppose you try again when you are rested.' 'It's no use; I've tried and tried, and now I am going to give up, I won't try any more.' 'It is too bad, my little man,' said the professor, 'but I suppose you know best—every man knows his own business.' The fact that he had treated me as if I were a man encouraged me a little, and the professor continued. 'Well, look at that bug! Let's watch him a few minutes.' He pointed to a tumble bug which was laboriously trying to roll up a little incline. We sat on a big stone and, becoming interested, I soon forgot my troubles. How that bug did struggle! When he got the ball half way up the hill it struck an obstacle and both bug and ball rolled to the bottom of the hill. The bug never despaired. He repeated the tiresome climb time after time. 'He will never get the ball to the top,' I said. 'Yes he will,' said the professor, 'let's wait a minute.'

"By crickey! he got there," I exclaimed. 'Sure enough he did,' said the professor. 'You see he would not give up. Now look you, my lad,' said the man of science; 'in this life you will meet with many trials, obstacles and failures, but never give up the fight. Always try to have

as much grit as the little tumble bug. Now go home and try your arithmetic again.'

"The arithmetic did not seem so hard; I never forgot that lesson," said the elder engineer, as he lighted his second cigar. "When discouraged and even deserted by my friends I thought of the tumble bug, took a fresh start, made another mighty effort and won."

As the express pulled into Denver the young graduate got off to take another train for a small town to accept his first "job" as chainman in a surveying party. The elder man bade him good-bye, wishing his young friend success, and said: "Remember the tumble bug."

A. H. FAY.



SOCIETY



Social Review

IN looking back over the events of the past year, we recall especially the pleasant little informal dances given by the M. S. M. Orchestra at Mechanical Hall. These dances, coming bi-weekly, helped the time to fly along and varied the pleasures of student life.

On the evening of October 11th the Orchestra entertained their friends by giving a formal dancing party. Invitations were issued and practically all were accepted. Light refreshments were served in the Gym.

On Halloween the Pi Kappa Alpha fraternity entertained at their comfortable home with their annual dance. The rooms were prettily decorated with flowers and foliage of the late autumn. Delightful refreshments were served during the course of the evening's entertainment.

The Kappa Alphas entertained with a Thanksgiving dinner party. The feast was great. After dinner their guests attended a football game on Jackling Field.

On November 12th the annual masquerade dance was given at Mechanical Hall. There were various characters represented: Scotch lassies, Indian maidens, cavaliers and roughnecks. Copies of The Rollamo were awarded as prizes for those winning honors, the lucky ones being Miss Sybil Leitia Powell and Prof. Durward Copeland.

With Christmas time at hand the boys were quite ready to go home for the holidays. For those who remained in Rolla there was something doing all the time. Receptions, watch parties and dances afforded amusement for all who remained in town.

The Sigma Nu fraternity gave their annual on January 23. Excellent music and high-class entertainment kept the guests till the "Wee sma' hours."

The Miners' annual minstrel shows were given at Mechanical Hall on February 4th and 5th. Two full houses greeted the boys and it is needless to say that a great treat was enjoyed by everyone who attended either performance.

Then came the Lenten season, and at the same time a lull in the festive season. Whatever it may have done for the feminine votaries, it had the effect of making the student dancer and fusser take a step toward making up a few of his well-earned "cons." All but the incurables clothed themselves in sack cloth and ashes and settled down to do some real work.

The close of Lent was marked by renewed activity in social lines, numerous informals given by the fraternities and by the orchestra following in rapid succession. These delightful affairs were heartily welcomed by everyone and served to banish the torpor which always results from forty dull, uneventful days. Indeed the opening day itself was no trivial affair, causing all of Rolla's peacocks to hide themselves for shame and jealousy.

Kappa Sigma royally entertained their friends with an elaborate ball at the Grant House on April fifteenth. The decorations, music, and refreshments were excellent, affording everyone present a most enjoyable evening.

The young ladies of Rolla gave their annual Minstrel for the benefit of the Rollamo in Mechanical Hall on April second. This show was, as advertised, **THE SOCIAL EVENT** of the season and too much cannot be said in praise of the spirit in which the young ladies volunteered to donate their time in preparing this performance, which was of a character seldom



DON'T
FEEL
SLIGHTED.
We saved
THIS
place for
YOU
but you would
not let us
take you.



CAPE & — ?

A COURSE NOT IN THE CATALOG.

equalled by professionals. The Rollamo Board is very deeply indebted to them for the financial assistance rendered which made it possible to place this book in your hands at such a reasonable cost. This minstrel show will long be remembered as one of the most clever productions we have ever had the opportunity of witnessing and it will be a long time before the end men in the Miners' Minstrel recover from the richly deserved jolts they received.

For Commencement some great things are scheduled. The wax dance will begin the good times and not until after the annual Commencement Ball will the gala times cease. After that it will be a fond (?) good-bye to all the fair ones of the Rolla social set and the Miners will seek new hearts to win; this time for keeps.



The Miners' Minstrel

"SAY, Mr. Rube, does you see all dem St. James girls out dere in de audience?" That is the way the Minstrel opened, that is, that was the beginning of the first joke. Of course the orchestra had played several numbers and the chorus had rendered an opening overture, full of swing and rhythm.

"Yes, Mr. Red, I see all those fair maidens from St. James," replied the handsome interlocutor, Mr. Morgan, and then the fun began and the jokes flew thick and fast. Pretty soon Mick Flynn came to the center of the stage and, in his characteristic manner, rendered, "Everybody Turned and Looked at Me." It was the same old Micky of the previous year, only, if such a thing were possible, he was better this year than last.

Then there came more jokes and then our old friends, Red and Hungry, came into the limelight with their song specialty, "Dan, Dan, Danuel." The first verse was good but the second was better, and as they sang of Kat's unrequited affection for Mac, many eyes in the audience were damp with the tear of sympathy.

But soon to chase away the gloom came more jokes. Then came another of our last year's friends, "Ever Smiling," John Bodman, who rendered "That's as Far as You Can Go," and altho he did not render it in true "Anna Held" style, still his rendition held much of unconscious humor. How anybody could sing that song without entering into the spirit of it all was more than the audience could figure out.

After that, there came more jokes, as probably Coach Boland will remember, as he has been reminded of his joke pretty frequently since that evening. Then Hungry got up to sing his solo, "Kiss Your Minstrel Boy Good-Night," Hungry's rich bass voice being particularly suited to this piece. His song was good and the chorus work on this piece was excellent. At the end of the chorus we hated to see the curtain go down on the first part of the show.

When the curtain went up on the second scene, it disclosed the stage fitted up as the interior of an art studio. And pretty soon it was announced that Don Carlos Elmore would give us a little exhibition of rapid fire modeling, and that the clay bust which he would make would be raffled off the second night of the show. So, accompanied by the music of the orchestra, Elmore gave us an optical demonstration of how fast a good artist can work, in about twenty minutes time modeling a girl's head so beautiful and lifelike that every person in the audience coveted it.

Next Jack Harlan delivered a little speech which he declared to be extemporaneous, but which had really been written out and carefully committed to memory. Well, anyhow it was a good speech, and at its close he unveiled a bust of Director Young which had been modeled by Senor Elmore and was now presented to the school by the Rollamo Board.

When the curtain rose upon the third scene the house was in darkness, but pretty soon the silence was broken by the strident call of an alarm clock and a shadowy figure upon the stage raised up, gazed over the audience and wanted to know if that was the sun he saw out there, and seemed mightily disappointed when he was informed that it was only Cox's bald head. Very soon the lights were turned on and we saw six hoboos upon the stage, whom the program informed us were the six end men: Red, Ted, Micky, Hungry, Jimmy and Jim. However, it required more



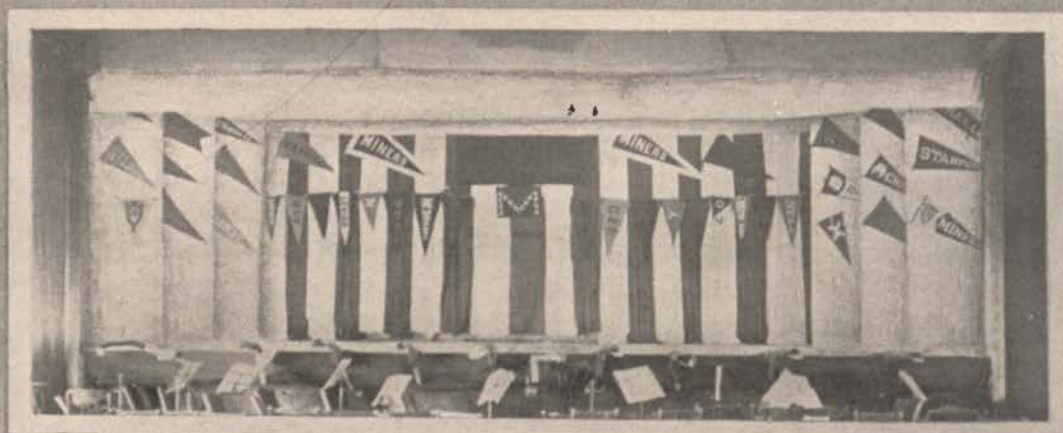
The Curtain



Bust of Director Young



Miss Disdain



Stage

than one look, more than several looks, in fact, to really realize that we knew these tramps. Each one of the hoboes now proceeded to do some special stunt.

First, Jimmy Keelyn, dressed up to represent an old Dutchman, sang the famous Heints song, which, since the minstrel has disturbed the slumbers of the residents of Rolla at all hours of the night. His imitations of the "pickled Dutchman Heintz" was true to life. Indeed, as Jim's girl was heard to remark, it was too true not to be the result of much actual practice. However, we take this opportunity of informing the young lady and all other feminine admirers of Jim, that knowing him as we do, we can state with authority that the way Jim learned his part was by observation and that he has never been guilty of practical application.

Next, Shorty Tedrow, wearing the cutest little tam-o-shanter imaginable, and with his whiskers trimmed a la Jo-Jo, rendered, you could hardly say sang, "Foolish Questions." In this he was well supplemented by the other hobos who paraded the stage carrying banners, bearing such "Foolish Questions" as

"Is Bill Jones in love?"

"Who goes with Kat H.?"

"Is Rob R. engaged?"

These scored a big hit, especially with those about whom no questions were asked.

Then came Red's and Ted's "Acrobatic Stunt." To attempt a description would be folly. Words cannot do it justice. If you were there and saw it, you remember it. Who could forget it? If you were not there you will have to get some one that was to try to tell you about it. The audience fairly screamed with laughter and everybody pronounced the acrobats as being far better than any professionals they had ever seen.

And last of all, Micky Flynn came out to give his Salome or rather Saloon dance. Micky was a vision of loveliness, being arrayed in pale green tights and a diaphanous robe of green mosquito bar. Micky was all right until the spot light was trained on him. Then he lost his nerve and made a hasty exit.

When the curtain went up on the final act, the stage presented an entirely different appearance than it had in the preceding scenes. It was arranged to represent the surveying camp "Elmo-Terry," so named after our beloved professors of civil engineering. At one side a tent was pitched, and in front of the tent the camp fire was burning, over which Branham was displaying his ability as a "flap-jack" artist.

Very soon the boys commenced to "blow in" to camp after the day's work, and after putting away the instruments, gathered about the campfire to rest and refresh themselves. Soon there were calls for music, and finally Pratt brought his guitar from the tent and, seated upon a log by the fire, rendered several beautiful selections. After that Owen sang a vocal solo. His selection was "Harbor of Lost Dreams," one of those sentimental songs which, if heard about a campfire, a hundred miles from nowhere, are calculated to make a fellow think about the loved ones, or better, the loved one, at home. (Isn't it strange that in the Minstrel Owen always sings one of those songs of love and lovers. We wonder why he always makes that selection.)

Next Groves and Riede entertained the boys by a very excellent rendition of "Good-bye, Dear Old Pal of Mine." And soon it was time for all to think of saying "Good-bye." So the chorus again appeared upon



the stage clad in regulation western costume and, assisted by the orchestra and the ends, brought the first night of the Minstrel to a close with the grand finale.

On the second night all the jokes and most of the songs were entirely new, the opening and closing choruses being the only part of the performance that was the same as it had been the first night.

After the opening chorus and a round of jokes, Jimmy Bunten ventured into the spotlight and sang a solo entitled, "Love Thy Neighbor as Thyself but Leave His Wife Alone." This was Scotch's first appearance in public but he acted like an old-timer at the business, and his song made a decided hit. After some more jokes Red and Hungry sang some new verses of "Danuel," as a certain member of the Younger Set, whose first name is Ethel, will bear witness.

Then some more jokes and Grove's solo, "I'm in Love With One of the Stars." This solo was well rendered and was profusely illustrated with appropriate jestures. The first part of the show was brought to a close with a parody on "Kiss Your Minstrel Boy Good-bye," sung by Engelmann. This parody concerned the doings of Terry McVey and his St. James love, and made a great hit with all but Terry.

During the intermission between the first and second scenes, the bust made by Elmore at the first night's performance was raffled, Clyde Lyons holding the lucky number.

"In Hobo Land" was given much as it was the first night. Tedrow had some new verses to his "Foolish Questions." One verse recited the jealous rivalry existing between Prof. and Bob Copeland for the hand of the fair Roberta, and another was dedicated to the "foolish kidlets," that is to that portion of Rolla society that style themselves "The Younger Set." This verse contained much good advice, which was fully appreciated by everyone except those "kidlets" to whom the advice applied.

When it came to the Salome dance, Micky had gotten over his stage fright of the night before and gave us a most beautiful and graceful imitation of this classic dance. At the close of this scene Senor Elmore entertained us with several selections on the guitar. The closing scene, Camp Elmo-Terry, was given as on the preceding night but with different musical numbers. Irwin sang "Down Among the Sugar Cane," in a manner that left nothing to be desired. The Mandolin Club gave several selections and the M. S. M. Quartette rendered several very pleasing numbers. "Hang Out the Front Door Key, Love," as sung by Webster was one of the most enjoyable numbers of the evening. This is only Webster's first year here and we look for him to take a prominent part in later minstrels.

The finale by the chorus ended the show and the Miners' Minstrel of 1910 was a thing of the past.

INTERLOCUTOR

A. R. D. MORGAN

DIRECTOR

C. W. KENISTON

CHORUS

SPRAGUE	MACKEY	BODMAN	WEBSTER
NEEDLES	STEWART	GROVES	JOHNSON
DOSENBACH	NOWLAN	RIEDE	CLAYTON
DIAZ	CODY	FAULKNER	BRANHAM
OWEN	BLAKE	IRWIN	FOGARTY
	BUERSTATTE	MAVEETY	

END MEN

BONES	{	FORRESTER	TAMBO	{	ENGELMAN
		BUNTEN			TEDROW
		KEELYN			FLYNN

M. S. M. QUARTETTE

IRWIN, MACKEY, OWEN, BUERSTATTE

ORCHESTRA

DIRECTOR

C. W. KENISTON

VIOLINS

GARRETT, L. E.	KARTE, A. F.
COPELIN, L. S.	FLYNT, F. L.
SMITH, V. H.—Cello	
LINDAU, L. S.—Bass	

CLARINETS AND FLUTE

MORRIS, E. R.	SCOTT, J. W.	GOTTSCHALK, V. H.
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CORNETS

WOOD, A. E.	BAUMBACH, J. K.	MITCHELL, R. B.
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TROMBONES

WEBER, R.	SMITH, L. X.
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PIANO

MRS. L. E. GARRETT

DRUMS AND TRAPS

ROACH, W.	JOHNSON R.
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STAGE MANAGER AND ELECTRICIAN

J. R. KENNEY

MINSTREL COMMITTEE

	D. COPELAND, Chairman	
	J. D. HARLAN, Business Manager	
D. L. FORRESTER	V. H. SMITH	F. J. FLYNN
J. R. KENNEY	E. W. ENGELMAN	H. L. TEDROW
	C. W. KENISTON	



SCENES AROUND ROLLA.

Girls' Minstrel

ON the evening of April the second, the Rolla Girls gave their Annual Minstrel for the benefit of the Rollamo.

When the curtain rose to the strains of the opening chorus, it disclosed a scene of incomparable beauty. The stage was decorated to represent a palm garden and was lit by Japanese lanterns. Gathered about the tables were ten of the classiest looking girls we had ever seen. Each had on a "brand new" evening dress, a large picture hat and carried a bunch of American Beauties.

Soon the "End Men" entered attired as waiters, and filled the glasses with what we took to be champagne, although, after the show, we were assured that it was nothing stronger than ginger ale.

Then the interlocutor entered. We knew that it would be Miss Roberta Rowe, for who else is so eminently well fitted for that position. As she entered and the spot-light was trained upon her, she made a most bewitching picture that we will long remember.

At the close of the Opening Overtures, the Ends got busy with their jokes. Marguerite Cole and Katherine Harrison were on the ends; how could the Minstrel get along without them. Clema Hughes and Lute Harrison were the other ends and we soon saw that no mistake had been made in their selection.

All the jokes were good, new, and hit their marks and the way the ends got them off could not have been improved upon. There were lots of them too, scattered all way through the first part of the show, and the person in the audience on whom there was no joke was to be considered mighty lucky.

The first solo was by Miss Rowe; "Ask Me While the Band is Playing," and all that it is necessary to say is that Miss Rowe sang it just like she sings all her songs. Her strong soprano voice filled the hall with its rich, melodious tones.

Miss Ida Smith's solo, "I Can't Be True So Far Away," was exceedingly well rendered and was greatly appreciated by the audience, especially by one on whom the spotlight was trained.

The quartette by the ends, "I'm a Poor, Unhappy Maid," made a decided hit, especially with that portion of the house commonly known as the "bald-headed" row.

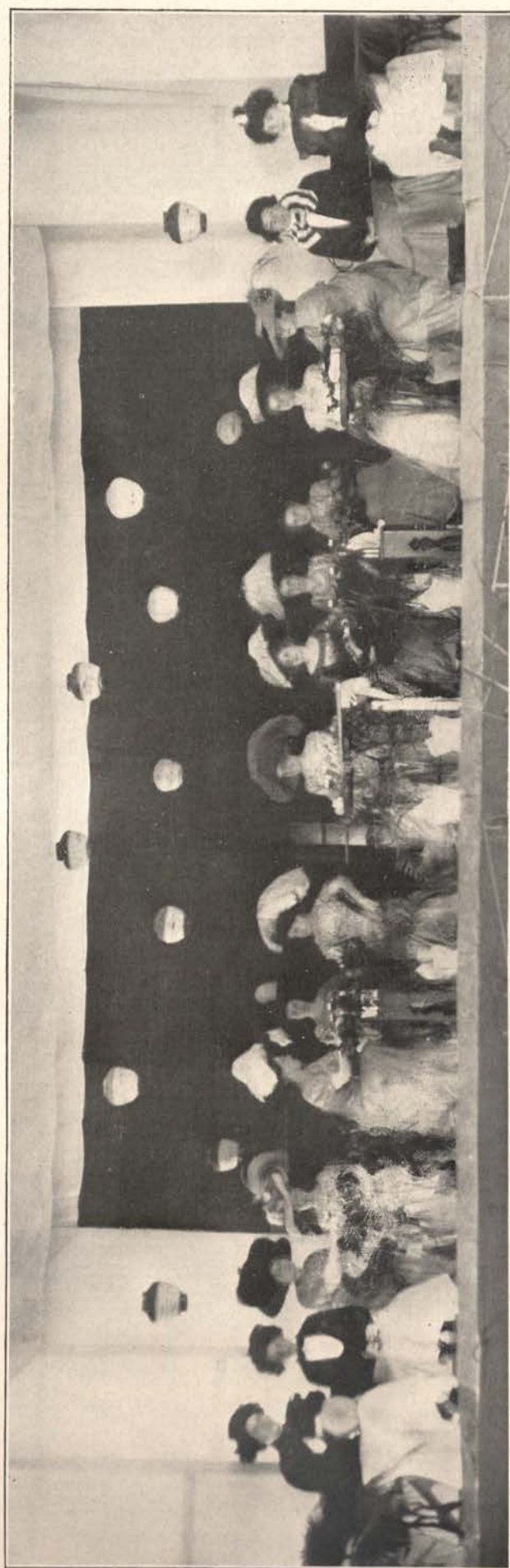
"It's the Pretty Things You Say, Dear," the solo by Mrs. McNair, was a very beautiful selection and was well rendered.

The parody, "In Jail," by Miss Katherine Harrison, was devoted to local happenings, and was well received by the audience, being repeatedly encored. Miss Harrison is in a class all by herself when it comes to parodies, and always scores a big success. She always has the whole house with her from the opening chorus to good night.

Miss Clema Hughes' solo, "If You Love Me, Lindy," was one of the song hits of the evening. Miss Hughes possesses a remarkably high and clear soprano voice, and her rendition of the piece left nothing to be desired. This was Miss Hughes' first appearance with the Girls' Minstrel, but we hope that it will not be her last.

"By the Light of the Silvery Moon," by Miss Mary McCrae, was a most beautiful selection and well adapted to her sweet, mellifluous voice.

Miss Marguerite Cole's parody on "Rings on My Fingers" was one of the big hits of the evening, and was encored repeatedly. Miss Cole pos-



sesses a fine voice, which she uses to advantage, and, in addition, possesses to a superlative degree that indefinable quality known as stage presence.

In the finale, "The College Boy," Miss Rowe again shone in the lime-light as a soloist. The singing of the circle in this number was excellent, as, indeed, it was in all the choruses.

The second part of the programme was devoted to various specialties. Miss Rowe came first in "Dublin Daisies," and again she used her voice to good advantage. On the drop behind the soloist immense shamrocks had been painted and when it came to the chorus and full lights were turned on, in the center of each shamrock was seen a girl's head. This was one of the most strikingly attractive scenes in the entire show.

The Japanese Specialty, in which Miss McCrae was the soloist, was very beautiful. Miss McCrae rendered her solo part very charmingly and the singing and dancing of the chorus of the Chorus was excellent and showed the result of much practice and careful training.

Miss Hughes in her song specialty rendered "My Cousin Caruso" and "The Drinking Song" and again displayed her voice to great advantage. Too much cannot be said in favor of Miss Hughes' voice. It is a clear beautiful soprano especially pleasing on the high notes.

"The Arctic Explorations of Profs. Gean and Driswold," as given by Misses Marguerite Cole and Katherine Harrison, was one of the best numbers of the evening. The stage was dimly lit with blue lights giving a cold and weird effect and in one corner stood an igloo. Soon the good ship, "Rollamo" appeared bearing JoJo (Miss Harrison), and from out the igloo came George R. (Miss Cole). Both JoJo and George R. were clad in the regulation arctic costume, at least they looked just like all pictures of arctic explorers do, and after taking several astronomical observations, they found that by mistake, they had located the south pole, which was represented by a very familiar looking barber-pole. After cracking many jokes at the expense of their former pupils and singing several local songs, JoJo and George R. boarded the Rollamo, and as it carried them off the stage, the curtain went down. Miss Cole and Miss Harrison deserve much credit for their specialty. It was something entirely new and the manner in which it was presented, was excellent. Greater appreciation was shown this number by the audience than anything else on the programme.

The Closing Chorus, "Good-Night Dear," was well sung and brought the show to a successful close.

INTERLOCUTOR,
MISS ROBERTA ROWE.

END LADIES.

Bone.
MISS LUCILLE HARRISON.
MISS CLEMA HUGHES.

Tambo.
MISS KATHERYN HARRISON.
MISS MARGUERITE COLE.

CHORUS.

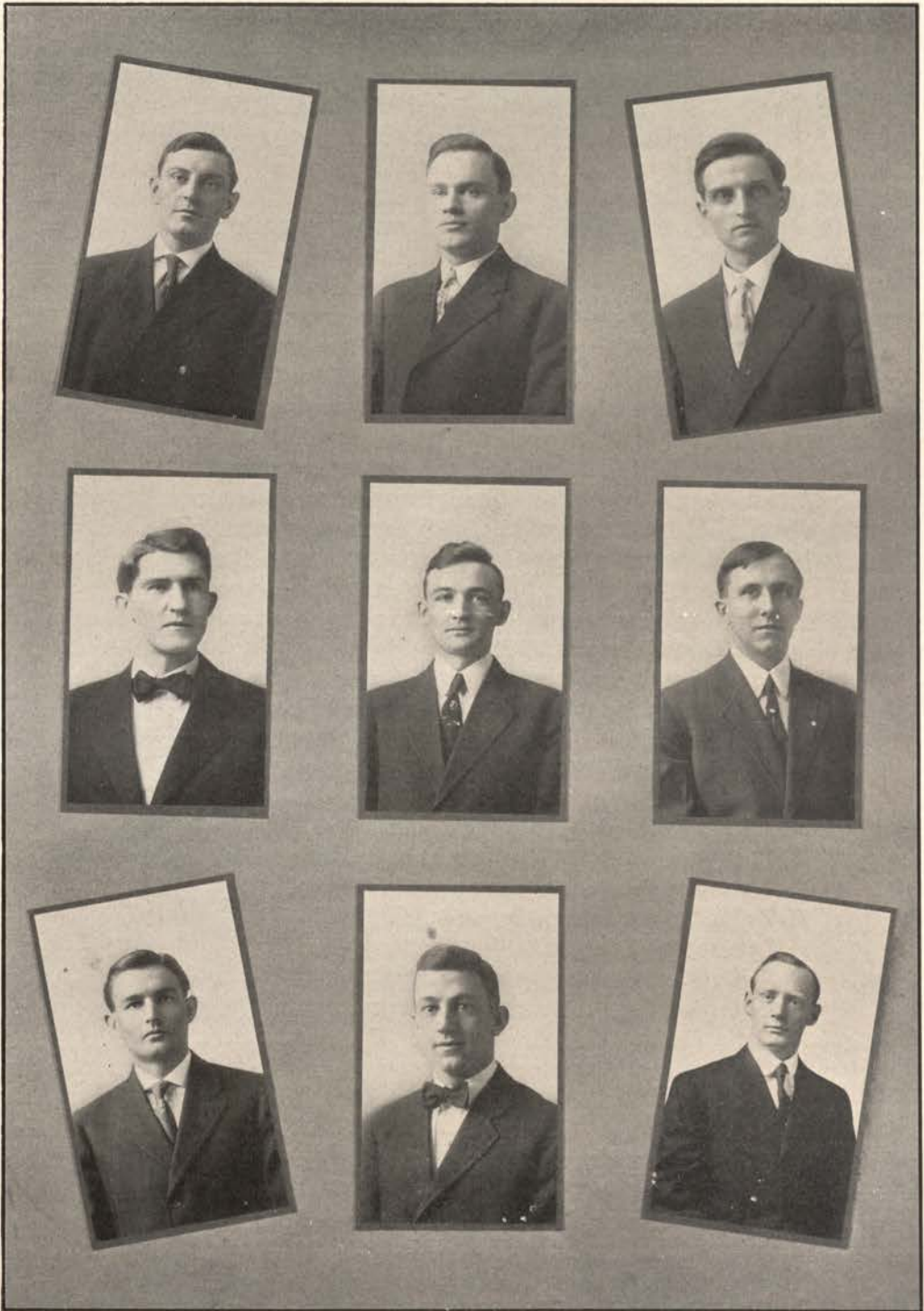
MISS NANCY HARRISON.
MISS EDITH POWELL.
MISS GEORGIA HARRISON.
MISS GLADYS FAULKNER.
MISS MARY SHAW.

MRS. McNAIR.
MISS IDA SMITH.
MISS ADELE POWELL.
MISS MARY McCRAE.
MISS GRACE ARY.



GIRLS' MINSTREL

THE ROLLAMO BOARD



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Acknowledgment

CONTRIBUTIONS to this year's book have been as numerous as could be desired, showing that at last interest has been awakened. Whenever a notice calling for contributions was posted, the box in the Library was filled to overflowing and the staff of nine was kept busy for the following month editing material that would have brought tears of joy to the eyes of William Randolph Hearst. Everything submitted was of the highest literary quality, and had all the gems of thought been accepted the 1910 Rollamo would have been published in ten bulky volumes instead of being crowded into these paltry two hundred pages. The trouble was not in selecting good material, but in discriminating between the exquisitely divine and the preternaturally superb. Perhaps the nature of the matter you have already encountered has been of such a nature that doubts have arisen in your mind as to the correctness of the last assertion, so we hasten to remind you that poor editing will spoil the most brilliant production from a most scintillating mind. As it is absolutely impossible to attempt thanking each individual contributor without running a gigantic supplement we will confine our attention to those who have done the most in making this volume what it is.

Most sincerely we wish to thank the orchestra for their indispensable services in the two Minstrel Shows which have made it possible to place this book in your hands at about one-half the cost of publication. We owe deep gratitude to the following:

Edward Kahlbaum, for his artistic photographs.

S. R. Schmidt, for his athletic write-ups.

C. Elmore, for the title page and the beautiful background on which the Senior pictures are mounted.

W. Porri, for numerous sketches.

H. Minor, for sketches and title pages.

R. B. Mitchell, for articles on the orchestra and St. Patrick's Day.

T. W. Blake, for Junior class history.

H. D. McKibben, for smoker articles.

E. Lynton, for Sophomore class history.

C. Y. Clayton, for Freshman class history.

R. B. Caples, for Junior Missouri trip.

A. Park, for Y. M. C. A.

Prof. Copeland, for Numerous Suggestions.

Prof. Dudley, for Ore Dressing Lab.

H. S. Owen, for the Senior trip.

We cannot say enough to thank the members of the Miners' Minstrel troupe and the girls who so graciously gave over six weeks of their time in preparing shows which were in every respect equal to anything we have ever had the privilege of witnessing.

To Mrs. L. E. Garrett we are profoundly indebted for the invaluable assistance she rendered in playing the piano, and for the long hours she spent in practice for the two shows.

For help in stage settings we wish to express our gratitude toward the following:

J. R. Kenney

E. T. Ustick

L. Boucher

H. S. Owen

B. F. Murphy

B. H. Dosenbach

R. C. Thompson

R. B. Caples

and to Mrs. M. F. Faulkner, who painted the curtain which added so greatly to the "Dublin Daisies" specialty.

Editorial

In dedicating this book to D. C. Jackling, we believe that we have made a choice that will be pleasing to everyone. Those of the Alumni who were here at the same time he was will remember Mr. Jackling as a man of sterling character, and possessed of remarkable ability, and who made friends with everyone with whom he came in contact. The members of the student body know him as a man who has done much for his Alma Mater and to whom they could always turn when they wanted a position. Mr. Jackling has always been an earnest supporter of the Rollamo and has ever since the first issue furnished substantial assistance. His generous gifts, which enabled the school to possess Jackling Field, has made him well known to even the humblest Freshman in the school, and we feel confident that no mistake has been made in dedicating the Rollamo of 1910 to D. C. Jackling.

At times much criticism has been heard concerning the manner of electing the Rollamo Board, but after a little thought it will be seen that the present method is the only one that will keep the election out of politics, and, at the same time, secure the best men.

Last Fall, at the request of the non-fraternity members of the Senior class, a new set of rules for the regulation of the Board were drawn up. These rules were, in substance, as follows:

The Rollamo Board shall consist of nine men, one from each of the Fraternities having a chapter here, and five men who are not members of any of the aforesaid Fraternities, but one of whom may belong to some other Fraternity.

The new Board shall be elected by the retiring Board.

The new Board shall elect its Editor-in-Chief and other officers and adopt its own working rules.

The members of the Rollamo Board receive no remuneration for their services, the only reward being the right to wear the gold Rollamo pick that the Board purchases for its members if it has enough money left in the treasury after all the bills are paid.

Daniel C. Jackling

DANIEL C. JACKLING entered the Missouri School of Mines from near Sedalia, Mo., and graduated with the degree of B. S. in Chemistry and Metallurgy in 1892. Being an orphan thrown upon his own resources he worked for a part of his school expenses and borrowed money to pay the remainder.

During his Senior year and the year following his graduation he was assistant in the Chemical, Assaying and Metallurgy Laboratories. He left Rolla in June, 1893, for Cripple Creek, Colorado, with barely enough funds to reach that point. Work was slack then and young Jackling experienced great difficulty in finding anything to do. He applied at nineteen different mines and offices for a job. On the afternoon of the second day he stopped in an assay office to rest, when the Chief Assayer told him that one of his men had just gone home sick and for Jackling to show up at the office the next day and he might give him

work for a day or two. The man was sick for two weeks during which time Jackling made himself useful and a permanent place was made for him when the sick man returned.

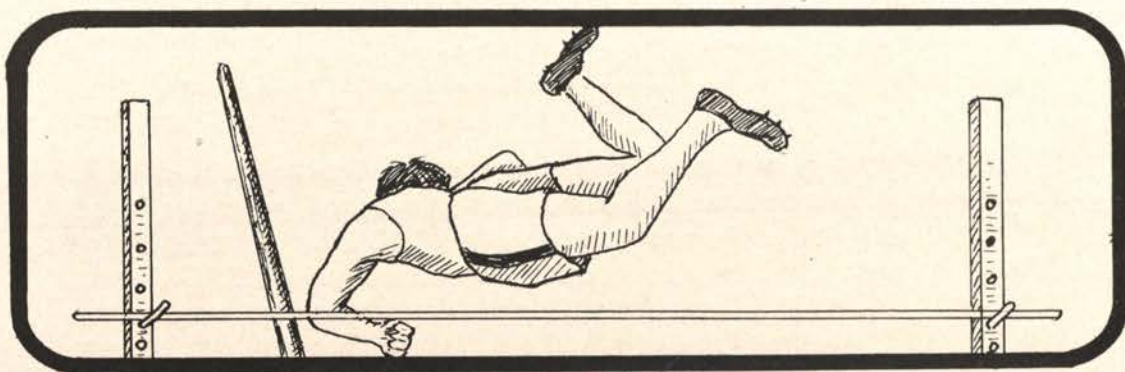
Later he was manager for a small mill for six months and his methods of handling work began to attract attention. The mill was burned and the next day Jackling was offered three positions, two at Cripple Creek and one at the De La Mar Mines at Mercur, Utah. After careful consideration of the possibilities, he accepted the position at Mercur. Altho occupying a subordinate position he suggested certain improvements in the metallurgical processes then used. Some of these suggestions were put into practice and he was given in addition to his salary a certain per cent of all the gold his method saved above the old method. In less than two years he was offered \$6000 a year to go with another company, but he continued with the De La Mar Mines and made improvements that placed his name among the leading metallurgists of the world. Later he was general manager of the A. S. & R. plant at Canon City, Colo.

He was early struck with the great possibilities of the copper deposits near Salt Lake City, and tried hard to enlist capital in the undertaking. But some of the leading mining engineers reported adversely on the proposition and capitalists were shy. Nothing daunted by failure he hammered away at the proposition and finally succeeded in starting the Utah Copper Company, and his management of that company as well as his methods of mining and milling the ore shows him to be of the highest type of the modern business man as well as the leading mining engineer in America.

As we go to press a leading mining magazine states: "It is known that the Guggenheim interests desire to have all their mining and smelting business placed in the hands of a man with a large capacity for managing operations. They have expressed a desire to have Mr. Jackling take control of all their interests in this country, Mexico and Alaska. He has not consented to do this while having all the business of the Jackling-MacNeill interests on hand, but it is understood that they have shown a disposition to increase his forces in the Utah territory in order that he may give his personal attention to a larger field."



ROLLAMO HUTCHINSON, OUR NAMESAKE



ATHLETICS



The Athletic Association

LAST Spring a new Constitution was adopted by the Athletic Association and that marked a new era of prosperity for the organization. Under the new rules the Board of Control consists of the Athletic Director, and the President, and Treasurer of the Athletic Association. This Board of Control has full power to act in all matters pertaining to the various lines of athletic activity. The Athletic Director is in full control of the selection and running of all the teams and acts as manager of all the teams, appointing students as Assistant Managers as he deems necessary.

Under the old Constitution the power was vested in a Board of Control consisting of all the officers of the Athletic Association and the captains and managers of all the teams. The power was not concentrated enough and the Board was governed more or less by school politics. As to the matter of the running of the teams, the Coach, the Captain and the Manager each tried to run things and quite frequently the team took things into their own hands and did about as they pleased.

Under the present system nothing like that can occur. The Athletic Director is appointed by the Board of Curators and is a member of the faculty and his authority is supreme. And, owing to the smaller size of the Board of Control and the new "Missouri spirit" that is characterizing all the acts of the student body, politics are practically eliminated from the Athletic Association.

For about the first time in its history, the Association is entirely out of debt. The credit for this belongs to the President, Prof. D. Copeland and the Treasurer, Mr. F. E. Reide. They both have given lots of their time and have worked hard to accomplish this and are to be highly congratulated upon the success that has crowned their endeavors.

The Athletic Director and Coach, Mr. Dennie, is also to be thanked for getting the Association free in a financial way, as he put out the winning team that enabled the Treasurer to take in big gate receipts. An account of his work will be found elsewhere in this book.

A new era has begun for athletics in the school this year—an era of success. With the best Coach in the Middle West and with lots of enthusiasm and school spirit, we may look for winning teams in all branches of college sport. The new Jackling Field adds greatly to the interest taken in the teams, as it provides ample space for witnessing all games in a comfortable manner, besides providing a football gridiron and a baseball diamond that cannot be excelled.

We may expect things to boom here along athletic lines as they have never boomed before and we confidently expect that the teams turned out next year will be winners.

Officers of the Athletic Association

Athletic Director.....	F. E. Dennie
President	Prof. D. Copeland
Treasurer.....	F. E. Reide
Vice-President.....	J. H. Chase
Secretary.....	E. W. Engleman

J. E. Dennie, Coach

SINCE Coach Dennie came here last fall the interest in athletics has increased by leaps and bounds. He brought with him an enviable reputation in intercollegiate football, gained by his remarkable work at Brown University, where his speedy and aggressive work made him known throughout the East as one of the best ends that ever donned football togs.

Coming as he did with such a reputation, great things were expected of him and nobody has been able to say that the great things were not accomplished. He knew football from A to Z and started right in to impart his knowledge in such a way that it stuck and brought immediate results. The most noticeable feature of Dennie's work as Coach is that while he is coaching he is by far the most active and the busiest man of the bunch.



His efforts thus far have met with remarkable success, as he has turned out football and basketball teams whose victories have been unparalleled in the School's history. Baseball and track are now receiving his attention and from what we have seen thus far, these teams will be in no wise below the high standard he set when he turned out the winning teams of last fall and last winter.

Coach has won a home with every man in School by being absolutely "on the square." To know him is to like him. His exceptional ability as a coach has made him indispensable and he has a place waiting for him at M. S. M. as long as he cares to remain. Here's hoping that we may look forward from year to year to having Dennie back, working with the squads.

1909 FOOTBALL SCHEDULE.

Miners.....	3	St. Louis University.....	0
Miners.....	10	Central College.....	11
Miners.....	0	University of Missouri.....	13
Miners.....	16	Carleton College.....	6
Miners.....	10	Haskell Indians.....	13
Miners.....	26	Kirksville Normal.....	0
Miners.....	30	Kirksville Osteopaths.....	0
Miners.....	6	Barnes Medics.....	26
Miners.....	43	Drury College.....	0
Total for Miners.....		144	
Total for opponents.....		69	

Football

THE football season of 1909 has never been surpassed in the history of the school, as one of unrivalled support from the student body and of dogged determination and up-hill fighting by the coach and members of the team.

Beginning the season with anything but favorable conditions, Coach Dennie whipped into line a team that feared neither devil nor man. After a few weeks of steady practice and hard training, the opening game was played with our old foe, St. Louis University. This game was a true example of science against beef and brawn, in which the light team of the Miners were the victors by a score of 3 to 0.

On the following Saturday the game with Central College was played. Dennie knew that the game the following Saturday would necessitate all the first team men being in good condition, so put in practically all substitutes. This fact, together with the fact that Central had a fast and well-coached team lost for the Miners by a score of 11 to 10. A Central man intercepted a forward pass and ran for a touchdown in the last few minutes of play.

With this defeat still burning in the hearts of the players, the team went to Columbia the following week to play the annual game with the State University. The game opened with all the players in good condition except Macomber and Gilchrist, who were suffering from injuries received in the St. Louis U. game. The Miners' line was like a stone wall and held for downs time and again. Things looked bad for the Tigers, for when the Miners had the ball they tore through the Tigers' line for long and steady gains. At the close of the first half the Miners had carried the ball from their 35-yard line to the Tiger 15-yard line, when time was called with the score 0 to 0. The halves were to be 25 and 20. With the Miners marching down the field and Columbia men keeping time, the halves were switched to 20 and 25. The error was not discovered until 15 minutes after the second half had begun. By this time the fierce grueling began to tell on the Miners. Columbia began shoving in fresh men who were just as good as those who were taken out, while the Miners had to retain the men with whom they had started the game. In the last eight minutes of play, when the Miners had been exhausted, the Tigers piled up a score of thirteen points, making the score at the final 13 to 0 for the Tigers. The score, however, does not tell the story of the game and those who attended are strong in the assertion that the Miners are as plucky and as game as any team that ever donned the uniform of the gridiron.

On the following Saturday the team played Carlton College and, although in a crippled state, won in a hotly contested game by a score of 16 to 6.

The following week was spent in rounding the team into shape for the pow-wow with the Haskell Indians, in St. Joseph, Mo. The Indians had just returned from a successful trip through the South, where they were victors in every battle. This wonderful record of the Indians only served to intensify the fighting spirit of the Miners.

The teams were as evenly matched as two teams could be, averaging about the same weight and each using the same method of open play. The game started with a strong wind at the Indians' back and the Miners kicking off. After a few plays the Miners got the ball on an incomplete forward pass. Then a series of plays landed the Miners well into the In-

dians' reservation. Two place kicks were tried but failed, and then the Miners began working for a touchdown. At the end of the first half the score stood 10 to 0 in the Miners' favor.

In the second half the Indians came back with a burst of speed that was marvelous, and before the over-confident Miners fully realized their position, the Indians were on their 5-yard line. Here the Miners' line held for downs, thus gaining possession of the pig skin. Macomber, in attempting a kick out received a bad pass and the result was a safety, which gave the Indians two points. These two points seemed to bring back the old warlike spirit that has been racing through the Indians' blood for generation after generation, and about the middle of the half they added six more points to their score. The Miners were still fighting as hard as ever and succeeded in getting the ball on the Redskins' 5-yard line, only to lose it on a fumble, as they were going for a touchdown. There was much penalizing on both sides, mostly due to incomplete forward passes, but the plays were pulled off so fast that the penalizing did not mar the beauty of the game for the spectators. The Indians' whirlwind quarterback got through the entire Miners' line and ran for a second touchdown for the Haskell team, this making the score 14 to 10 for the Indians; In the last ten minutes of play the ball was in the middle of the field most of the time, both teams being exhausted from the fast and furious play which they had been putting up. No more scoring was done.

The next game was played at Kirksville, Mo., with the State Normal team. They had a fast, scrappy team and all showed excellent fighting spirit. The field was soft and even muddy in places, this preventing the Miners from giving an exhibition of their wonderful open play as taught by Coach Dennie. The first half ended with a score of 20 to 0 for the Miners. During the halves a game was arranged with the Kirksville Osteopaths to be played the following Monday. This forced Dennie to instruct the Miners not to open up in the second half, but just to prevent the Normal boys from scoring. The game ended with a score of 27 to 0 in the Miners' favor. Four touchdowns were obtained by the Miners which were not allowed by the referee, he claiming that the Miners' center had failed to pass the ball properly.

On the following Monday the team defeated the confident Osteopaths who, by the way, averaged at least fifteen pounds to the man heavier than the Miners. The score was 30 to 0, being slightly greater than that against the Normals.

On Saturday of the same week that the Miners played the Osteopaths a game was arranged with the Barnes Medical College. This game was not on the original schedule, as the coach had deemed it necessary for the team to have two weeks rest and practice before the final game with Drury on Thanksgiving Day. The Miners lost to Barnes after one of the hardest fought football games ever played at Sportsman's Park. The Miners replaced only one man during the game while the Barnes team had four men taken out exhausted from the fierce play put up by the Miners. The final score was 25 to 6 in Barnes' favor.

The next and last game of the season was with Drury College in Springfield, Mo. In view of the fact that Drury had defeated St. Louis U. by a score of 6 to 3, they were confident of winning from the Miners. Naturally, by this time the Miners were well seasoned players after having played four of the best teams in the Mississippi Valley, namely: Missouri U., Haskell Indians, St. Louis U. and Barnes, besides four other lesser teams. So it was only natural that the Miners should feel that they would win the big Thanksgiving game.

The day was ideal for a game and all the available space on the bleachers and ground was crowded to the limit. The game opened with Drury kicking off to the Miners. After five minutes of play the Miners went over for a touchdown. Drury had the ball many times during the first half but failed to come within striking distance of the Miners' goal. The score was 18 to 0 and Drury was kicking off to Rolla, with only two and one-half minutes to play. "Rube" received the ball and brought it back to the middle of the field and with only one man to pass, it looked like another touchdown, but he was downed by as pretty a flying tackle as one would want to see. No time was lost in lining up. In just three downs the ball went over for another touchdown, making the score 23 to 0 in the Miners' favor at the close of the first half.

The second half opened with the Miners in better condition than when they started the game. The score soon began to pile up again. In the middle of this half, Andrus, the big right tackle, was sent around left tackle, getting away for a run of sixty-five yards and a touchdown. After this great run Andrus was forced to leave the game on account of a sprained ankle. The tackle plays were working to a frazzle, with Macomber and Morgan breaking the holes. Drury played a fighting game all through, but were no match for the strong and sturdy Miners. The final score was 43 to 0 in the Miners' favor.

It is needless to say that everybody in Rolla were proud of the good team the Miners put in the field, and a great reception awaited the team on its return from Springfield.

Before the Thanksgiving game Gilchrist, who played right half for the Miners, was drafted by the State University to play against Kansas U., and from all accounts Gilly held up his share of the burden and received his share of the glory from the victory of the Tigers over the husky Kansas team.

During the Winter Dr. Baysinger and a number of the business men of Rolla banqueted the squad for their splendid record made during the season. Dr. McRae acted as toastmaster. Those responding to toasts were: Director Young, Coach Dennie, Captain Macomber, James Gregory, Chas. L. Woods, Prof. Dean, Captain-elect Blake, John Bowles, Manager Prof. Copeland, Prof. Wilkins, D. L. Forrester, E. P. Barrett and Dr. Baysinger. All spoke words of encouragement to the team and captain-elect. Not until after midnight did the jolly banquet party leave the banquet hall. The party broke up singing "The Mining Engineer."

LINE UP.

Coach—F. E. Dennie.

Captain, S. C. Macomber.

Manager, E. P. Barrett.

THE TEAM.

Right End—R. C. Thompson

Left End—F. Herndon

Right Tackle—H. D. McKibben

Left Tackle—J. J. Bowles

Right Guard—F. Kranzthor

Left Guard—A. N. Detweiler

Right Half—K. P. Gilchrist

Left Half—S. C. Macomber

Center—R. E. Dye

Quarter—T. W. Blake

Fullbacks—D. E. Andrus, A. R. D. Morgan.

SUBSTITUTES.

Quarter—D. L. Forrester

Left Half—J. L. Bland

Right End—C. C. Bland

Fullback—L. Boucher



E. F. BOLAND, Assistant Coach.

Boland first came to Rolla in 1904 as head coach. He brought with him a reputation for heady football and baseball playing, being one of the best men Syracuse University has ever turned out. His three years of coaching were marked by successful teams, but he became discouraged because the men would not train, and he left to sign up with the Silverton and Ouray (Colo.) teams as pitcher. He returned to us in the fall of 1908 and signed up as a junior and will get a degree this June. Although not on the payroll, he has always taken great interest in all teams since he has been here, and his knowledge of just how much a man can be taught in a season has led him to make many suggestions which have been of incalculable value in whipping the teams into shape. He knows all the finer points of both football and baseball and is always willing to lend his assistance when it is needed.

S. C. MACOMBER, Captain and Left Halfback.

"Mac" has been a star for three years and is the hope of next season's back field. His powerful build, combined with an extraordinary speed, make him an ideal halfback. For two years he has won a position on the All-Missouri team by his wonderful dodging, cross bucks and end runs. As a kicker he has also won fame. It was his place kick from the 40-yard line which beat St. Louis U., and thus realized the dearest hope that M. S. M. rooters ever cherished.



TRUE W. BLAKE, Captain-Elect, Quarter-Back.

"Red," of the curly hair and solemn visage, was the fastest man on the team. Coupled with his speed in running back punts, was an ability to elude tacklers, which made him a most valuable man. He never failed to gain ground before being downed. Also a Tau Beta Pi man. What more can one say of his head work?

R. C. THOMPSON, Fullback, Right End.

"Tommy" is not only an athlete of the first rank, but also a member of Tau Beta Pi. As a line plunging fullback he was a veritable battering ram, a point to which Drury's line of 1908 can well testify. But it was at end that he showed his real worth. School tradition tells of no end who was his equal, and will never know one who will be greater. He could diagnose the opposing team's attack with unerring judgment, and no team tried his end often after they had a sample of the fierceness of his tackling.





K. P. GILCHRIST, Right Halfback.

"Gilly" was the hardest player on the team, getting into the game with a tigerish vigor that carried everything before it. He always got into every play, no matter whether it came on his side of the line or the other. His snappy, intrepid manner infused itself throughout the entire team, and when for any reason he was taken out there was always a visible deadening of the team's work. When he left in the middle of the season to join the ranks of the Tigers the whole school keenly regretted losing a star football man, an excellent student and a royal good friend.

A. R. D. MORGAN, Fullback.

"Rube," captain of last year's team, is more than a good football player—he is a prince of good fellows. His height and speed combined make him a bear at breaking up forward passes. In the last Washington game he saved us from four touchdowns by intercepting forward passes that looked good for touchdowns. A series of accidents kept "Rube" from showing how valuable he really was. His good right boot not only gained many yards, but also scored not a few points by booting them over the crossbar.



ROBERT E. DYE, Center.

"Bob," although a runt in size, made good by his grit and willingness to keep boring in. From a green, awkward tackle he developed, under Dennie's watchful eye, into a center who was always there to deliver the goods. With one more year in school "Bob" has ample chance to make a name for himself and for M. S. M.

A. N. DETWEILER, Right Guard.

"Det" at guard was one of those steady and reliable fellows who played a hard, clean, consistent game every time. He rarely took out time, but took lots of punishment in silence and gave in return the best that was in him. He leaves this year with a fine record on the field and in the classroom, for "Det" is a real shark and a member of Tau Beta Pi.





H. D. McKIBBEN, Right Tackle.

"Mac" is the third of the great trio—Macomber, Thompson and McKibben—who made the teams of '08 and '09 famous throughout the Southwest. Cool, collected and watchful under fire, he made few mistakes and was always to be found at the bottom of the pile. "Mac" will be back next year to make Bluck and Missouri U. feel faint and sick. He was the star lineman of the State, even if he did weigh only 168. He gave all he had to M. S. M. and her team, and that was surely plenty. This year he never took out one minute's time during the entire season. What a record!

D. E. ANDRUS, Tackle and End.

"Big Andy" started late, but when he arrived was going like an express train with the engineer asleep and the throttle wide open. He sure tore 'em up down at Columbia by leading the procession for ten yards every time he was called on to carry the ball. Here's hoping that the big boy will return next year to help lick Missouri.



J. J. BOWLES, Left Tackle and Guard.

"Joe," under Dennie's strenuous coaching, developed into an aggressive player who made a very formidable antagonist for the best of them. His playing was always characterized by a fierceness and desire to be in the mix-up, which made him feared by men who outweighed him many pounds. His work was always the best he had to give.

FRED KRANZTHOR, Left Guard.

"Tex" always played the same old even and steady game. He never "starred," but neither did his opponent. When called upon to open up a hole he could be depended upon, and in turn was usually a stone wall in defense. His absence next year leaves a big hole to be filled.





FRANK HERNDON, Left End.

"Lebanon" could throw a ball both far and accurately and made a number of substantial gains by this method. Will be back next year to take care of the left wing in the same steady manner.

D. L. FORESTER, Sub. Quarter-Back.

"Red's" late start counted against his making a star display, but his work as sub. quarter was remarkably good. Another year under Dennie ought to make a fine general out of "Red," for he is both cool and deliberate on the gridiron and lacks neither speed nor sand.



LEO BOUCHER, Sub. Fullback.

"Bouch" was prevented from showing his bulldog tenacity and hard working proclivities by the way in which "Tommy" and "Rube" held down the fullback job. Although he was used in but a few games, he stayed out the whole season and did what he could to improve the Varsity in scrimmage work. This is the spirit which should have been shown by more of the original squad and which has given him a warm spot in the hearts of his fellow-students.

W. H. BARRETT, JR., Sub. Center.

"Little Red" had hard luck early in the season. A painful injury to his knee is all that kept him from earning an "M." But with three more years to play he will be a star in M. S. M. football.





Jackling Field

THROUGH the generosity of Daniel C. Jackling, an alumnus of the Class of 1892, the dream of a new athletic field for the School of Mines was made a reality. Early in the summer of 1909 Mr. Jackling, recognizing the urgent need of an adequate athletic field at the school offered to furnish the funds to provide for the same. Work was commenced at once and today the field which has been named after him stands, or rather lies, as a lasting memorial of the loyalty of Daniel C. Jackling to his Alma Mater.

For a number of years the northern portion of the School of Mines campus had been used as an athletic field. However, as the ground sloped rapidly, the tract of land was not at all well adapted for the games, there being a difference of elevation of ten feet between the goal posts.

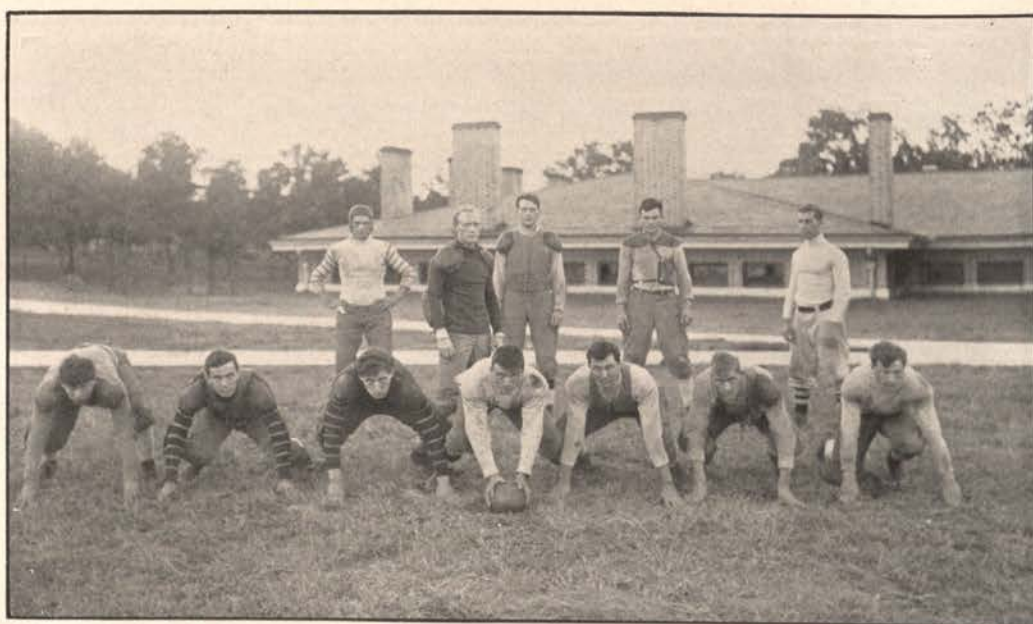
Immediately upon the receipt of Mr. Jackling's generous present, plans were drawn up for the grading of the south half of this tract and work was commenced as soon as the contract could be let. About 7000 cubic yards of clay and rock were removed and the entire field then re-surfaced at the new level. At the north end of the field a concrete bleacher three hundred feet long and capable of accommodating several thousand people was erected.

As seen by the plan, the field provides for a football gridiron, baseball diamond, quarter-mile track and straightaway, and for several tennis courts. This gives the School of Mines an athletic field that is not excelled by any school of its size in the country.

At a mass meeting of the students held in the early fall it was unanimously decided to name the field "Jackling Field," in honor of the man who had made the field possible. This year marked a new era in athletics at the school, an era of renewed enthusiasm, and among the causes of this enthusiasm there ranks conspicuously our new field, Jackling Field.



HASKELL INDIANS' GAME.



SIGNAL PRACTICE.

Baseball, 1909

WHEN the squad numbering thirty-five filed out on the field about March twenty-eighth the prospects for the coming season looked very promising. After a few weeks' practice the squad was thinned out and good hard training began. The men composing the team were every one of them individual stars and it did not take long for them to get down to snappy team work.

The first game was scheduled with the Carleton College team, who were returning from a very successful trip from the South, where they had been playing exceptionally fast ball. It looked like the Miners would almost surely be defeated as Carleton was almost in midseason form, while this was the Miners' first real contest. The contest was a fighting struggle all the way through and it was anybody's game until the winning runs were knocked out in the tenth inning. Considering the weather it was one of the cleanest, fastest and most exciting games of the whole season from the spectators point of view. Porri was on the slab for the Miners and pitched splendid ball, for eight innings when he was replaced by Hanes. Hanes not only proved himself equal to the occasion, holding the Carleton bunch safe, but put the game on ice by his timely "bingle" in the tenth.

The next game the Miners easily took Carleton into camp by a score of 5 to 2. Hanes pitched a splendid game, holding the visitors safe at all stages of the game. The feature of the game was the spectacular playing of Will Porri on third.

The next two games were with Arkansas University, generally conceded to be the fastest college team of the South. This bunch had just played the University of Illinois and lost by a score of 3 to 2. The Miners lost the first game by a score of 7 to 4, and the second by a score of 4 to 2.

The Miners showed fighting spirit throughout both games, but the superior coaching and fast team work of Arkansas proved too much for them. The features of the games was the pitching of Ormsby and the timely hitting of Gregory.

Drury College was slated for the next two games. The result proved to be an even break, the Miners taking the first 5 to 3 and Drury the second game 3 to 1. For pitchers' duels that could scarcely be equaled, this series was unexcelled. Wagstaff pitched a star game for Drury, while Ormsby and Hanes did fine work for the Miners. Probably the most spectacular play of the season occurred in the first game when Mose Wolf knocked the pinch hit that brought in the winning run.

We easily took the last two games from Illinois College. Scores being 7 to 2 and 11 to 3. Detweiler pitched a steady, consistent game, and Engleman's two home runs cinched the game for the Miners. Both games were so easily won that at no time did our team have to exert itself.

Summing up the season of 1909, the Miners were very unfortunate with their schedule, two games being called off on account of rain and two games cancelled. Individually the school had an exceptionally large number of good ball players. Porri started out pitching, but was later shifted to behind the bat to take the place of Schilling, who was having trouble with a very sore arm. Needless to say Porri made good in his new position.

The infield, composed of Engelmann, Gregory, Clark and Will Porri, was exceptionally strong in both fielding and batting. Some of the batting and fielding averages made by the team are as follows:

	Batting	Fielding
Will Porri.....	.407	.931
Gregory	.400	.907
Engelmann	.382	.944
Louis Porri.....	.343	.971
Clark	.225	.815

The fielding department was composed of Owen, McCrae, and Kinney as regulars. They were fast enough and fairly good hitters. The school was especially fortunate to have for their pitching staff Ormsby, Hanes and Detweiler.

The season of 1910 opens with a bright outlook. Already the men are hard at work under the supervision of Coach Dennie. Although Clark, Gregory and Louis Porri refuse to come out, the infield with new material will be able to make a very creditable showing. The old men who will this year don the Miners' uniform are Engelmann, Will Porri, Dosenbach and Wemhaner, while among the new men out for positions are Thompson, Kurz, Cushwa, Copeland, Raible, Donaldson, Needles, Geringer, Beach and Nolan.

Baseball Lineup

Captain, C. Gregory.

Manager, R. F. McCrae.

THE TEAM.

G. H. Zimmerman, L. J. Porri.....	Catchers
J. E. Hanes, R. G. Ormsby, M. H. Detweiler.....	Pitchers
E. W. Engelmann.....	First Base
C. Gregory.....	Second Base
W. Porri.....	Third Base
J. C. Clark.....	Short Stop
H. S. Owen.....	Left Field
R. F. McCrae.....	Center Field
R. N. Kinney.....	Right Field
O. C. Wemhaner, G. W. Schilling, E. J. Wolf.....	Substitutes

1909 SCHEDULE.

Carlton College.....	3 Miners	4
Carlton College.....	2 Miners	5
Arkansas	7 Miners	4
Arkansas	4 Miners	2
Drury	3 Miners	5
Drury	3 Miners	1
Illinois College.....	2 Miners	7
Illinois College.....	3 Miners	11
Total for Miners.....		39
Total for Opponents.....		27



CLAY GREGORY, Captain and Second Base.

Clay was a terror with the stick, batting to the tune of .402 in our eight big games last year. As a leader on the field he was cool and collected, watchful of every opportunity to pull off a trick which invariably fooled the opponents and worked to the advantage of the Miners. His absence this year has thus far been noticeable.

E. W. ENGELMANN, Captain-Elect and First Base.

"Hungry's" work on the initial bag was of "big league" character. His enthusiasm never flagged, and he was always there with a cheerful word for the pitcher no matter how dark the outlook. He was a hard hitter, holding his own at the bat, and nothing ever got by him at first base. Old "Hung" has already demonstrated that he has lots of baseball sense, and nobody has even the remotest doubt but that he will be able to handle his men as well as play the game and settle all arguments in a gentlemanly manner.



J. E. HANES, Pitcher.

His every movement on the diamond proclaimed him a future "big leaguer." A thousand imps could not rattle him as he studied the batter when a hit meant the loss of the game. His wonderful control of the spit ball was the cause of the downfall of the heavy hitters of Drury and Carleton. In addition to his speed and his curves, his ability to nip men off the bases made him a man to be feared as a pitcher. His loss this year is regretted, not only for his baseball ability, but also for his genial personality.

M. H. DETWEILER, Pitcher.

"Little Det," with practically no previous experience, developed into a pitcher whose record was one to be envied. His value as a pitcher rested chiefly upon his astonishing speed and his remarkable control. His batting also was exceptionally good and netted the Miners runs when they were sorely needed. He will be back next year to help trounce Arkansas.





LOUIS PORRI, Pitcher and Catcher.

Headwork, one of the prime requisites of a good ball player, is Louie's chief asset. He is equally cunning behind the bat and in the pitcher's box. His batting also makes him a valuable man, as he has the happy faculty of dropping the ball into safe territory when a hit means a run. We are sorry he wouldn't come out for the team this season.

J. C. CLARK, Shortstop.

Jack is a natural born baseball player, as his every movement while on the diamond proclaims. There never has been his equal at short in this section of the country. He not only covers thoroughly all the territory between second and third, and never lets anything get past him, but also always knows just where the ball belongs, no matter how many men are on the bags, and gets it there with a precision which seems infallible. He catches and throws the ball in one movement, and nothing is too hot for him to stop. His absence from the team this year is keenly regretted by all.



W. PORRI, Third Base.

"Bill" came here with the reputation of being a slugger and has lived up to his reputation with a vengeance, leading the team last year with a batting average of 407. Moreover, his hits are always well timed and have added many a score where a less steady man would have fanned. His accuracy in throwing is as phenomenal as is his ability to pluck a supposedly safe hit from among the stars. Professional ball will undoubtedly be his occupation when he leaves us in 1912, as three more years of play will put him in a class all by himself.

H. S. OWEN, Left Field.

"Buck" took good care of the right garden for the Miners, and although his fielding was rather erratic, his ability to hit safely and opportunely made him a valuable man to the team.





R. F. McCRAE, Center Field.

So certain was "Buster" in gathering in the high ones that a fly into his field always brought such cries as "In the well" or "In the basket," from the rooters. His batting last year was far below his high standard during his first three years, due to being hit by a batted ball, which impaired his eyesight. His graduation left vacant a place which had been well filled during his four years on the team.

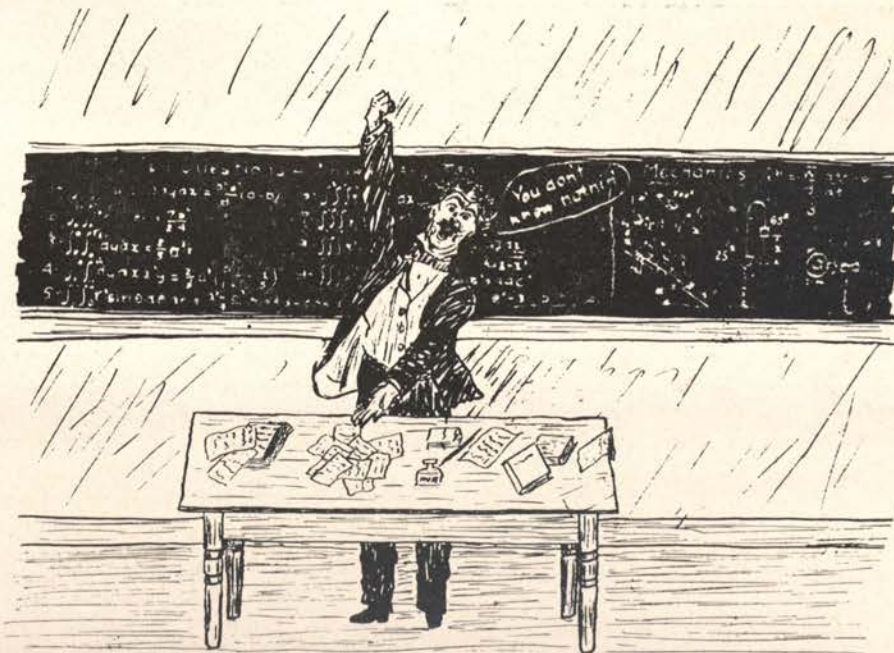
R. N. KINNEY, Right Field.

"Bob's" speed and almost absolute sureness enabled him to pull down many a long fly that looked good for three bases. Although it was his first year on the team, he made good with a vengeance. Another of his strong points was his accuracy in shooting the ball home on a sacrifice fly. His absence this year leaves a big hole to fill.



O. C. WEMHANER, Substitute.

"Goog" hardly had a chance to show the fans how good he really was. We feel sure, however, that he will win a place on the team this year and next, as he has a good whip and hits nicely.



PROF. DEAN FEEDS THE SOPH'S WITH A SPOON.



FACULTY BASEBALL TEAM.



TOWN BASEBALL TEAM.

The 1909 Track Season

TRACK has always been the most successful sport at M. S. M., but the team turned out in 1909 was exceptionally strong. The unexpected strength developed by the team we attribute to the natural ability of the athletes, to hard practice during the spring, and to fall training—a practice sadly neglected prior to 1908.

It is to be lamented that only one track meet was secured during the season, but the schedule went wrong, due partly to incessant raining at times meets were scheduled and partly because our open dates did not correspond to those of the surrounding colleges.

The Missouri meet came rather unexpectedly during the latter part of the season, Columbia having concluded that she needed a try-out for her men before the Missouri Valley conference. It is hardly necessary to add that Coach Monilaw's men were tried out and that they worked desperately hard, only to win out by a very scant margin. But the meet was equivalent to a victory so far as the exultant Miners were concerned, for part of the team left home to cut down expenses and the events were so arranged that it was impossible for M. S. M. to compete in the mile.

A neatly executed box on Missouri's part in the half mile shoved a Rolla man from first to second place. We may add here that there were four Missouri men in this event and only one Miner, and the protests of our captain were unheeded by the Columbia officials.

Record of the Meet

	First.	Second.	Time.
High Hurdles - - - -	Mazaney (Rolla) - - -	Blake (Rolla) -	:16
100-Yard Dash - - -	Columbia - - - - -	Porri (Rolla) -	:10 1-5
220-Yard Dash - - -	Mazaney (Rolla) - - -	Loveridge (Rolla)	:26
440-Yard Run - - - -	Columbia - - - - -	Columbia - - -	:54
880-Yard Run - - - -	Columbia - - - - -	Farrar (Rolla) -	2:05
One-Mile Run - - - -	Columbia - - - - -	No Contestants.	
Pole Vault - - - - -	Macomber (Rolla) - -	Columbia - - -	11' 2"
Running Broad Jump -	Traughber (Rolla) - -	Columbia - - -	20' 10½"
High Jump - - - - -	Macomber (Rolla) - -	Columbia - - -	5' 7"
220-Yard Dash - - - -	Porri (Rolla) - - - -	Columbia - - -	:23 1-5
Shot Put - - - - -	Macomber (Rolla) - -	Columbia - - -	40'
Hammer Throw - - - -	Barrett (Rolla) - - -	Columbia - - -	135'
Two-Mile Run - - - -	Lynton (Rolla) - - -	Columbia - - -	10:10

Score: Columbia, 57½; Miners, 54½.

The 1910 team seems to contain almost as good material as last year's squad. While we feel keenly the loss of Barrett, our hammer thrower, and Mazaney and Loveridge, our crack hurdlers, yet the new material promises to strengthen the team in the dashes, high jump and distance runs.

The Athletic Association expects to send the track team to the Missouri Valley conference this season and expects them to place close to the winners. The outlook for successful track teams in the future is very bright at present and there seems to be no reason why M. S. M. with constantly improving training facilities and the splendid new track which Mr. Jackling has made possible shall not continue to improve each year and put out a winning team.

School Athletic Records

Events	Record	Holder	When Made
100 yards.....	:10 1-5	K. V. Moll.....	1902
220 yards.....	:23 1-5	Will Porri.....	1909
440 yards.....	:53 1-5	F. O. Blake.....	1908
880 yards.....	2:04	G. H. Boyer.....	1906
Mile.....	4:40	G. H. Boyer.....	1906
Shot put.....	39' 9"	S. C. Macomber.....	1908
Hammer throw.....	118'	M. S. Mazany.....	1909
Discus throw.....	111' 6"	E. P. Barrett.....	1908
High jump.....	5' 7"	John Graves.....	1905
Broad jump.....	20' 10½"	C. W. Traugher.....	1909
Low hurdles.....	:25 4-5	M. S. Mazany.....	1909
High hurdles.....	:16	M. S. Mazany.....	1909
Pole vault.....	10' 9"	S. C. Macomber.....	1909
5-mile cross-country.....	30:40	E. D. Lynton.....	1908





MONROE FARRAR, Captain.

Endowed with only a slight physique, Monroe achieved by hard work and everlasting pluck a record to be envied. Against Missouri his 2:4:4 in the half won him second place. In the conference at St. Louis he helped to win the championship with 4:49:4 in the mile, which took second place. His loss by graduation this year leaves a big vacancy, which will be hard to fill.

C. W. TRAUGHER, Captain-Elect.

"Skeeter's" ability to cover over twenty feet in the broad jump added not a few firsts in our various track meets. He has always trained faithfully and worked hard for M. S. M. As captain of this year's team we hope he will lead us to victory against Missouri.



M. S. MAZANY.

"Coalgate" certainly surprised the natives up at Columbia when he romped home in the high hurdles in sixteen flat. His consistent work in the low hurdles and in the hammer throw also could always be relied upon to win a few points. "Slats" graduated last year, leaving behind him an enviable record as an athlete who always gave the best he had. Is the holder of three school records.

S. C. MACOMBER.

"Mac" has been the mainstay of the track team for two years, and we hope will continue to keep up the good work for two more years. It was his work at St. Louis that brought the Intercollegiate championship of the Missouri Valley to Rolla, and it was his work also which so nearly won the meet from Missouri last year. "Mac's" talents are not confined to one line. He is a winner in the pole vault and the broad jump, as well as the holder of the school record for the shot put.



E. P. BARRETT.

"Red" has two hobbies in athletics. One was, in football, to get the opposing quarter-back and throw him over the goal posts, and the other to see that the school had a good track team. He rooted out all the promising material in school for the squad, and it was largely due to his efforts that track athletics at M. S. M. has developed to the present high standard. His efforts on the field have always been of the highest order, and he holds the school record for the discus throw.



E. LYNTON.

"Teddy" hails from England, where beef is the steady diet, and if this is the reason he has such durability we would recommend that more of it be consumed by our track squad. He trains hard and can always be relied upon to take first or second in any event he enters. Holds the record of 30:40 for the five-mile run. We expect to see him doing great things when he has become thoroughly acclimated.

WILL PORRI.

Will's baseball activities prevented him from developing into one of the best dash men in the West. With hardly any training to prepare himself, he did exceptionally well in the meet with Missouri, getting first place in the two-twenty and second in the hundred. Although his absence from the baseball diamond would be a great loss to the team, we hope that he will be able to find more time to spend on the cinder path the three years he will be with us.



F. O. BLAKE.

Frank had trouble getting into condition last year, due to an unfortunate attack of sickness, yet his race against Missouri's stars in the quarter was a very creditable one. His work during the two previous years was excellent, and it was his illness last year which prevented him from breaking the school record made by him at the big meet in St. Louis.



J. L. PICKERING.

"Pick" made no startling records last year, but he gave all that was in him, and no one can ask for more. His spirits never flagged, and he was working just as hard when the season closed as when it started. He ought to be one of the mainstays of the team this year.

FRANK LOVERIDGE.

Frank was a good, steady plugger and won his letter by faithful application. He annexed many points for M. S. M. and was always counted as a sure point winner.



R. B. MITCHELL.

Cross-country running is Mitchell's strong point, as his endurance and grit make up for the fleetness required in the shorter distances on the cinder path. We hope to see him repeat this year and make it interesting for the distance men up at Missouri.

B. F. MURPHY.

Although "Pat" got off to a late start, his showing at the end was extremely creditable. He showed he had the ability and willingness to work hard, and we hope that under the direction of our new coach he will become a very valuable member of the team.



T. W. BLAKE.

"Red" slipped one over last spring when, after doing road work all winter, he showed up strong right at the beginning of the season. His work has improved steadily for two years, and if he keeps it up he will make that school record of :10 1-5 in the hundred look sick.

Individual Track Records

MAZANY

Low hurdles.....	:25 4-5
High hurdles.....	:16
Hammer throw.....	118'

MACOMBER

Pole Vault.....	10' 9"
High jump.....	55"
Shot put.....	39' 9"
Broad jump.....	20' 6"

FARRAR

880 yards.....	2:04 1-5
Mile.....	4:49 4-5
5-mile cross-country.....	30:54

TRAUGHBER

Broad jump.....	20:10 1-2
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WILL PORRI

100 yards.....	:10 2-5
220 yards.....	:23 1-5
Broad jump.....	20' 3"

LOVERIDGE

100 yards.....	:10 3-5
220 yards.....	:24 1-5
Low hurdles.....	:26 1-5

LYNTON

2-mile.....	10:31
5-mile.....	30:40

BARRETT

Discus.....	111' 6"
Hammer.....	112'
Shot.....	39' 1"

F. O. BLAKE

220 yards.....	:23 4-5
440 yards.....	:53
Pole vault.....	10'

T. W. BLAKE

100 yards.....	:10 3-5
220 yards.....	:23 4-5

R. B. MITCHELL

Mile.....	5:8
5-mile cross-country.....	32:16

Basketball

THE basketball season at M. S. M. opened about November 20th with the chances for a speedy team looking good. Some of the old players failed to report but new material was soon whipped into shape for the opening game with Springfield Normal team at Springfield. This being the Miners' first game they were somewhat muddled by a misunderstanding of the signals and were defeated by four scores. The game was nip and tuck all the way through, Raible doing the star work for the Miners.

Upon returning from Springfield the boys took our old foe, St. Louis University, under wing to the tune of 49-9. Porri and Thomas starred for the Miners.

The following week the team trained for the fast Third Baptist team from St. Louis. This team had gained a great reputation but the Miners proved too fast for them, winning from them by the uneven score of 55-28. The feature of this game was the condition of the Miners' team. From the beginning of the game on through two twenty-minute halves the Miners' positions were not changed, Captain Clark starring for the Miners by making 35 of the 55 points.

The Springfield Normals, thinking they could take another game, came to Rolla in a very confident mood. This conceit was taken out of them before many minutes of play, they being quite surprised when the game ended with a score of 48-22 in the Miners' favor. Kurz did the classy work for the team at this game.

The Miners returned to Springfield and were defeated by Drury College, the score being 44-11. This drubbing was not a surprise, because Capt. Clark was not with the team and several other players were disabled. Caplan showed good headwork in pulling the team out of several bad holes.

The last game of the season was one of the fastest games ever played on the Miners' court. Drury came up full of hope, and in fact they were rather confident that they would win another from the crippled Miners' team. The game started out in a speedy manner and continued so throughout the 40 minutes of play. Toward the end of the first half it looked as if the Drury boys would realize their fond hope, but the Miners came back strong in the second and when the whistle blew for the close of the game the score stood 32-30 for the Miners. Albertson and Kurz did excellent playing for the home team.

The team was disappointed at not being able to make two good trips that had been planned earlier in the year, one through Chicago and the other taking in St. Louis, Columbia, and Kansas City. The school could not offer enough to pay us to make the trips. This was naturally a source of great disappointment to those trying for the team, but they kept training and won glory for M. S. M. by pulling four victories out of six games played.

THE TEAM.

J. C. Clark, Captain.

J. A. Kurz, Captain-Elect.

S. R. Schmidt, Manager.

Forwards { J. C. Clark
G. S. Thomas
F. Caplan

Guards { N. W. Raible
M. Albertson
W. Porri

Center, J. A. Kurz.

Substitute, H. Marshall.

'09-'10 SCHEDULE.

Miners	22	Springfield Normal.....	26
Miners	48	Springfield Normal.....	22
Miners	49	St. Louis University.....	9
Miners	11	Drury College	44
Miners	32	Drury College	30
Miners	55	Third Baptists.....	28

Total for Miners..... 217

Total for Opponents..... 159





J. C. CLARK, Captain and Left Forward.

Jack was one of the star men of the State. Combined with his extreme shiftiness was his ability to shoot baskets from any part of the field and from any and all positions, even with the opposing guard sprawled all over him. In no game during his two years on the team did he fail to score frequently and consistently. His graduation this spring will leave a vacancy hard to fill.



J. A. KURZ, Captain-Elect and Center.

Adolph was another man who developed rapidly this year. He was going like a whirlwind at the close of the season. His 6 feet 3 inches of muscle made him an ideal man for the center position, and in addition he was a bear at making field goals. In the game against Drury it was his phenomenal scoring that won the game for the Miners. If "Lengthy" improves as much next year as he did this a position on the All-Missouri awaits him.



M. ALBERTSON, Right Guard.

"Little Husky" was the find of the year. Unknown when the season started, he developed into a star of the first rank. His sturdy build and bulldog tenacity made it next to impossible for his opponent to score a basket. Al always played for every ounce that was in him and will be back next year to make things interesting for Drury et al.



N. W. RAIBLE, Left Guard.

"Doc" is a fellow that can always be depended upon to do his best at all times. Although his game was not spectacular, he always played a hard, clean game and gave all he had in him to the team. With two more years to play he will make a player that will make the best of them sit up and take notice.



G. S. THOMAS, Right Forward.

Although handicapped by his height, "Tommy" played a fierce, aggressive game and was always willing to go one better when his opponent started to "mix things up." He played his best game against Drury, and we hope that next year all his games will be of the same caliber.

F. CAPLAN, Right Forward.

"Cap" had an eye like an eagle when it came to throwing free goals. His long suit was team work rather than grand-stand plays, winning many more points for the team than most of the spectators realized. He will be with us again next year to keep up the good work.



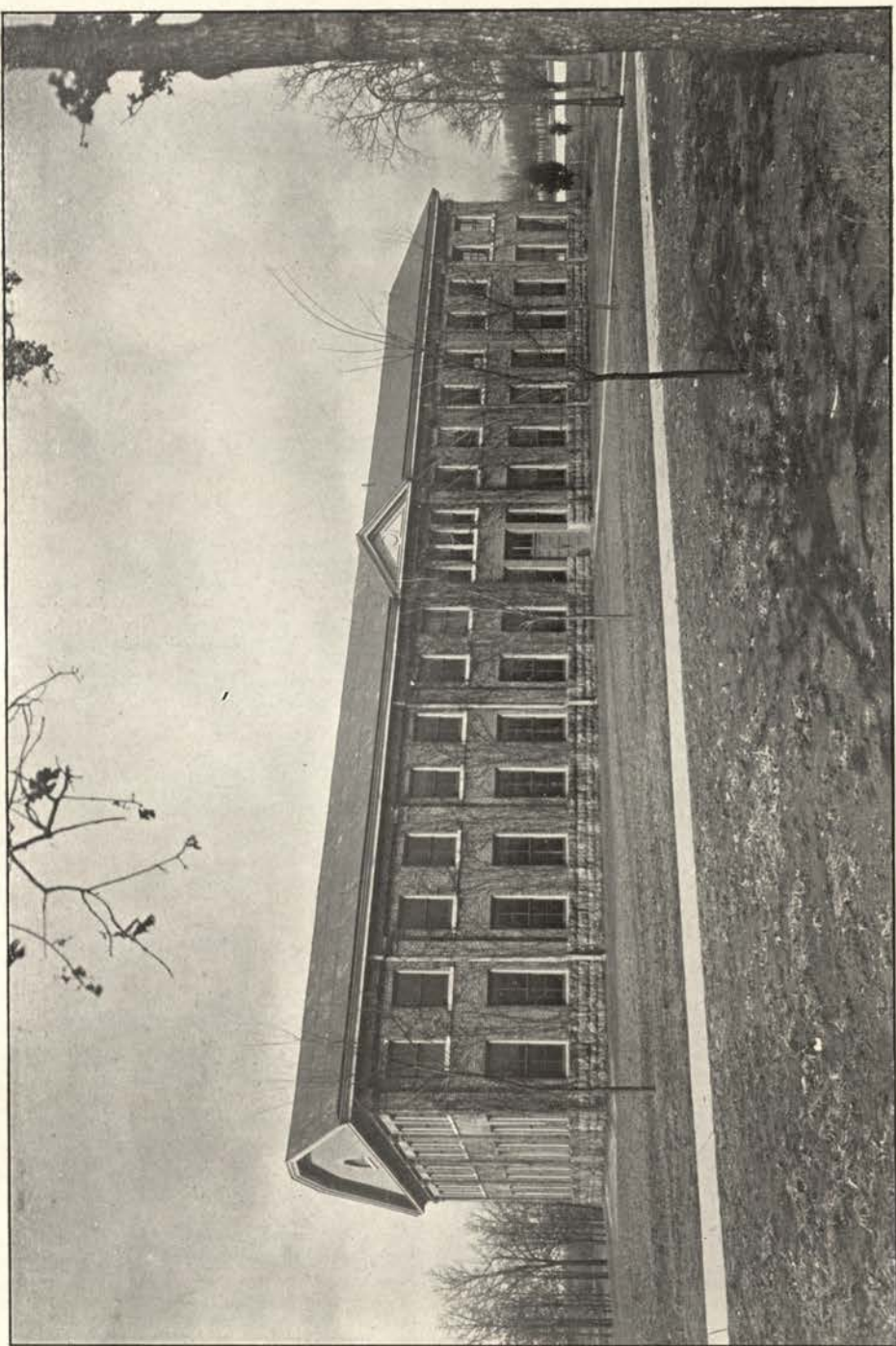
W. PORRI, Substitute.

Will showed his ability in the Drury game, where he played a cool, steady game, both as forward and as guard. With two more years to play, he has an excellent chance to become a player of the first rank, as he is cool, fast and has a good eye for baskets.

H. MARSHALL, Substitute.

"Duke" didn't have much chance to show his ability, but he had some of the veterans hurrying toward the end of the season. With three years more ahead of him he will surely be heard from.





MECHANICAL HALL

Wearers of the "M"

Won During the Season of '09-'10

Football

S. C. MACOMBER

T. W. BLAKE

R. C. THOMPSON

H. D. McKIBBEN

A. R. D. MORGAN

R. E. DYE

J. J. BOWLES

F. HERNDON

A. N. DETWEILER

F. KRANZTHOR

D. E. ANDRUS

Baseball

C. GREGORY

E. W. ENGELMANN

L. J. PORRI

J. C. CLARK

H. S. OWEN

R. N. KINNEY

R. F. McCRAE

R. G. ORMSBY

J. E. HANES

W. PORRI

Track

C. W. TRAUGHBER

S. C. MACOMBER

M. S. MAZANEY

W. PORRI

Basketball

J. A. KURZ

F. CAPLAN

G. S. THOMAS

N. W. RAIBLE

M. ALBERTSON

The Ore-Dressing Laboratory

FOR a number of years the ore-dressing and metallurgy departments of the School of Mines were separate and distinct. Lately, however, the two have been combined and now ore dressing is one of the subjects taught under the supervision of Professor Durward Copeland, who is the head of the department of metallurgy and ore dressing. It is well known by the present students and by the alumni that the old ore-dressing laboratory is inadequate for teaching the subject to the present large classes. This is true partly on account of the fact that in the old mill the later types of machines are not represented, and partly because those which are represented are not conveniently arranged to accommodate a large number of men at one time. The purpose, however, of this article is not to criticise the old, but to describe the new. To that end I shall give only a short description of the building and its equipment, in order that they who are interested, but who have not the opportunity of visiting the school, may be made familiar with the improved facilities for teaching the principles of ore dressing.

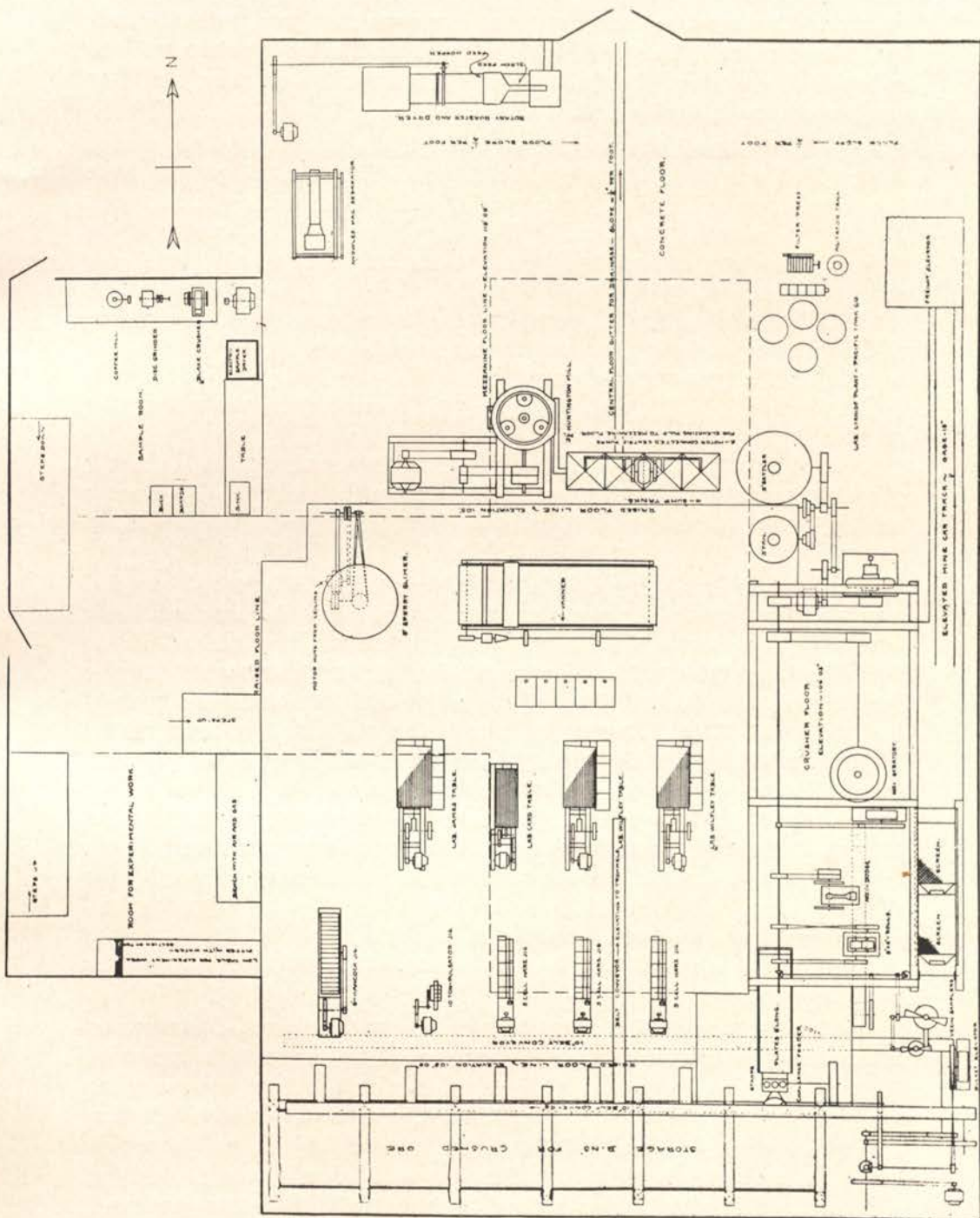
The laboratory occupies the east wing of the metallurgy building. The main floor of the wing, 50 feet by 80 feet, is connected to the central portion of the building by a neck, 16 feet by 50 feet. The available floor space thus provided is about 4800 square feet. Above the main floor a secondary, or Mezzanine, floor provides an additional 1300 square feet of floor space. Under the north end of the wing is a basement, 16 feet by 50 feet, used as a storage room for ores and other supplies. The ore storage bins in the basement may be filled from the outside, making it unnecessary for ore wagons to enter the laboratory. Except for conveying the ore from these basement bins to the crusher, the ore is handled and sampled mechanically throughout any mill test.

On the main floor of the building are two rooms, each 16 feet square; one, used as a sample grinding room, is equipped with a small Blake crusher, a disc grinder, a coffee mill, and an electric sample dryer; the other, used as an experimental laboratory, is equipped with water, compressed air and gas. A room, 12 feet by 16 feet, on the mezzanine floor, is completely outfitted for all chemical work necessary in connection with the various mill tests.

The lighting of the laboratory is a most excellent feature. A continuous row of windows occupies the entire wall space, and two large skylights furnish additional light on the mezzanine floor.

The machines for the laboratory were selected with the view of furnishing examples of the latest milling practice. In some few instances machines from the old mill have been used, but by far the greater amount of the equipment is entirely new. All machines are small in size, with a consequent low capacity, which is an aid rather than a disadvantage where the usual mill test will be performed on a ton or so of ore.

Briefly, the objects considered in installing the machines were as follows: To secure as great a variety of machines as possible, to so arrange them as to permit of a large number of mill schemes or processes, to provide ample working space and safety for large classes, and especially to facilitate the work of teaching. The general arrangement may be readily seen in the accompanying drawings, and the following is a



brief summary to show the process of handling material and the treatment of ore on a laboratory scale.

From the storage bins for raw material in the basement the ore, in small mine cars, is raised by a platform elevator to a track, which is six feet above the concrete floor of the mill. The ore is then carried by cars to the crushing floor, where it is weighed and fed to the crusher, a No. 2 gyratory breaker. The crushed ore from the gyratory breaker is elevated by a bucket elevator and thrown upon the upper of two plane shaking screens, arranged in series. The size of hole in these screens may be easily and quickly varied to suit the particular ore by having a number of perforated plates to fit the screen frame. The oversize from the first (coarser) screen drops by gravity to a 5-inch by 7-inch Dodge

crusher. The oversize from the second screen drops to a pair of 9-inch by 12-inch rolls. The products from both the Dodge breaker and the rolls fall to a conveyor belt, which carries them to the elevator, and they are thrown upon the screens.

Ultimately all the ore passes through the second or finer screen, after which it is sampled by Vezin samplers. The rejected portion from the samplers is delivered, by means of a bucket elevator, to the conveyor serving the crushed ore bins. From the conveyor the ore may be dropped into any one of these bins, to remain there until wanted for concentration.

It is readily seen that, according to circumstances, graded crushing with screening and sampling may or may not be used. The ore may be crushed in the gyratory, followed by the rolls or Dodge, without intermediate screening, by simply removing the screens from the screen box or frame.

The crushed ore bin at the east end of the row is used as a storage place for ores suited to stamp crushing and amalgamation. The stamps are fed by an automatic feeder of the Challenge type, attached directly to the bin.

The remaining five bins are for the storage of crushed sampled ores which are ready for concentration. Removal of the ore from these bins and conveying to the concentrating machines is effected as follows: Each bin is provided with an automatic feeder, by which the ore may be drawn from the bin and dropped upon the conveyor under the concentrating floor. This conveyor discharges the ore into the same bucket elevator, which in crushing operations receives the reject from the samplers. The ore is elevated to the conveyors serving the bins, but in this case is tripped to the belt running to the trommels on the mezzanine floor. It is not necessary to use the bins at all because the crushed sampled ore may be carried direct from the samplers to the mezzanine floor by the above scheme. Without using the bins, however, the concentrating machines are dependent upon the uniformity of hand feeding to the gyratory breaker, which is usually not so satisfactory as the automatic feed from the bins.

With the ore on the mezzanine floor, any number of treatment schemes may be quickly and easily arranged. The ore may be prepared for concentration by any one of the machines on this floor or by suitable combinations of them. The preparatory equipment consists of three trommel screens, one duplex Callow traveling belt screen, one direct type Richards pulsator classifier, one four-spigot Richards vortex classifier, one deep-pocket classifier consisting of three hydraulic cones, one small classifier of the Tamarack type, two 3½-foot Callow tanks and two 5½-foot Callow tanks.

The various prepared products from the mezzanine floor may be distributed by gravity to any concentrating machine on the floor beneath. The concentrating machinery is as follows: As coarse concentrators there are three five-cell, differential motion, Harz jigs; one ten-ton Richards pulsator jig, and one 6-foot Hancock jig. As sand concentrators there are two laboratory size Wilfley tables, one laboratory Card table and one laboratory James table. As fine or slime concentrators there is one 4-foot Frue vanner and one 5-foot Sperry slimer. There is also one 3-foot amalgamating pan with a 5-foot settler.

Each machine used for concentration is individually driven by a motor of proper size. This greatly facilitates experimental work by

The cyanide equipment consists of a leaching plant with all necessary tanks, a fourteen-inch Hendryx clay agitator, a sixteen-inch Hendryx combination agitator and filter, and a laboratory filter press.

Ores suited to magnetic separation are treated on a Knowles magnetic separator, and for preparation of such ores a small cylindrical dryer and roaster, together with a plane impact screen for dry sizing, is provided.

In conclusion, I may say that, while at present the laboratory may be far from the ideally perfect one, still it contains those features which are essential to a successful school laboratory and testing plant; namely, ample floor space for classes, independently driven machines, mechanical conveying of material, and mechanical sampling of all ores and products entering or leaving the mill. The standard types of machines now in use in practical mill work are represented. These, with the additions to the present equipment which will come from year to year in order to keep apace with the ever changing ore dressing practice, will ultimately produce a laboratory testing plant of which the alumni and students of the school may well be proud.



METALLURGY BUILDING.









SIGMA NU HOUSES.

Sigma Nu

Colors: White, Gold and Black.

Flower: White Rose.

Gamma Xi of Sigma Nu

Installed January 23, 1903

CHAPTER ROLL

FRATER IN URBE.

O. L. Brettner.

FRATRES IN UNIVERSITATE.

1910.

F. O. Blake.

V. H. Smith.

J. L. Pickering.

1911.

R. N. Copeland.

J. H. Chase.

E. C. McFadden.

F. W. Groves.

1912.

J. B. Leavitt.

E. C. Robinson.

W. W. Miller.

C. W. Wright.

H. Blake.

D. I. Hayes.

1913.

C. C. Bland.

N. Hayes.

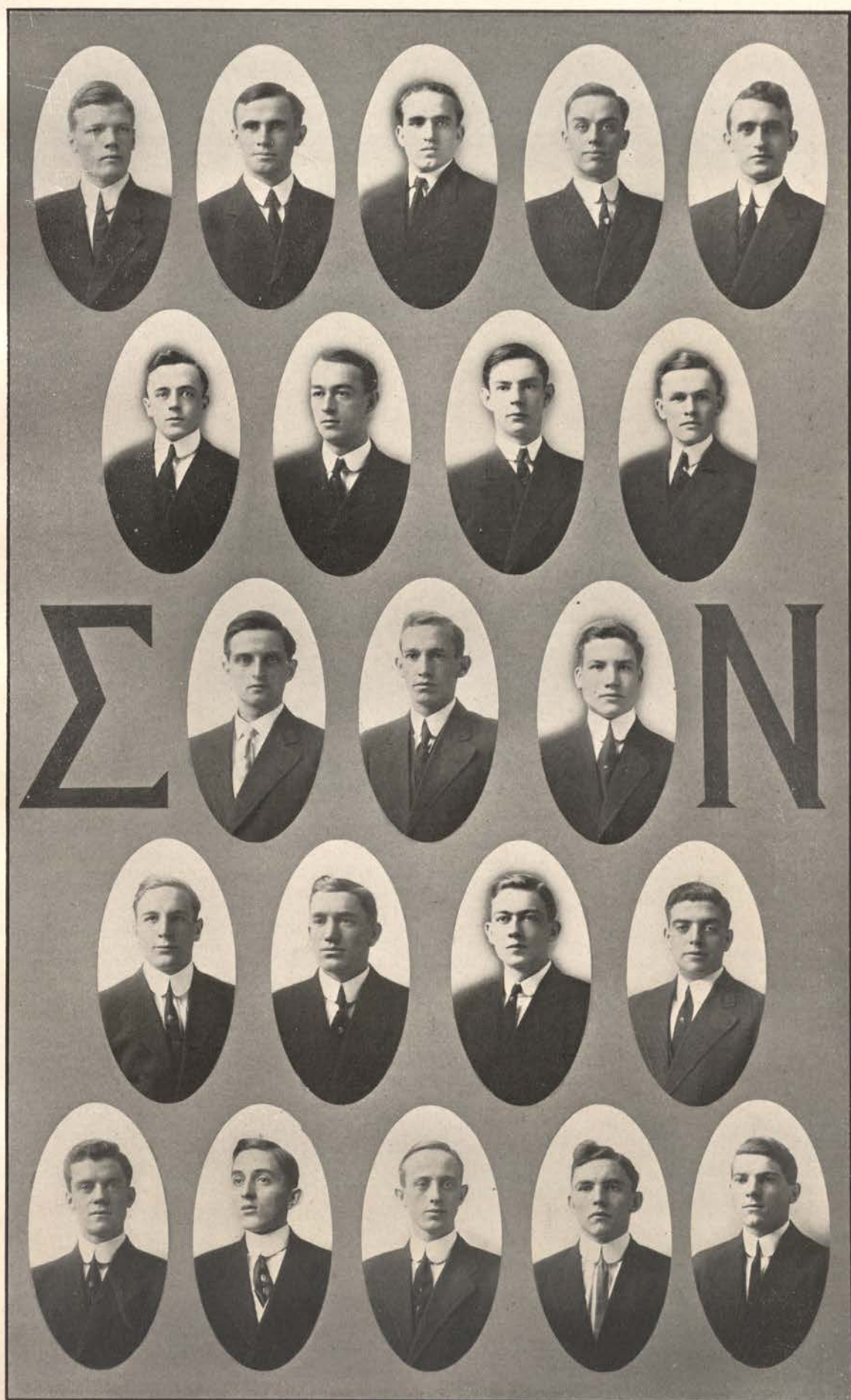
H. H. Nowlan.

H. I. Brooks.

L. J. Boucher.

F. Dickson.

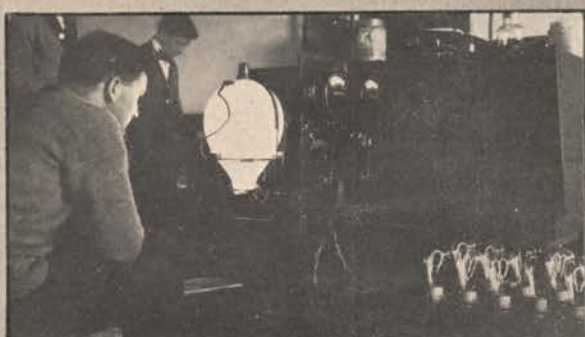
J. F. Seward.





DYNAMO LABORATORY.

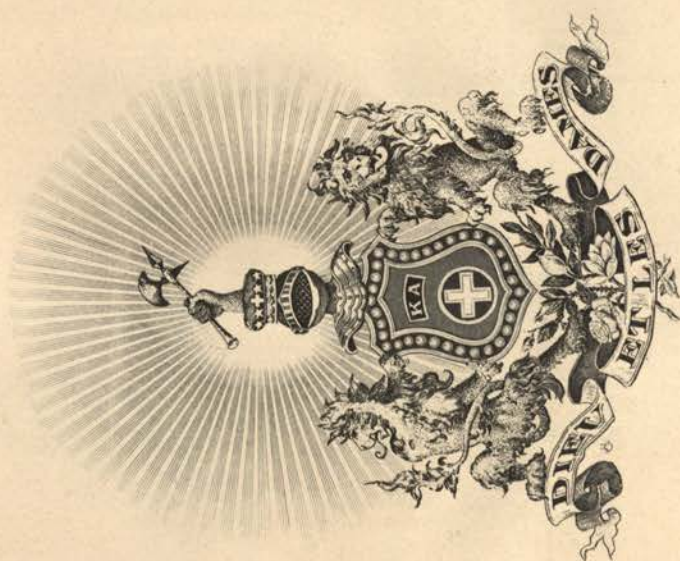
*COOPER-HEWITT
CONVERTER.*

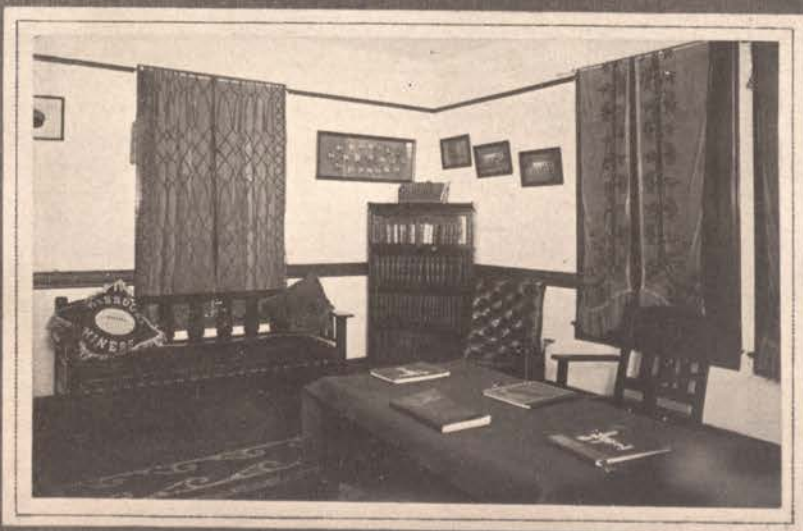
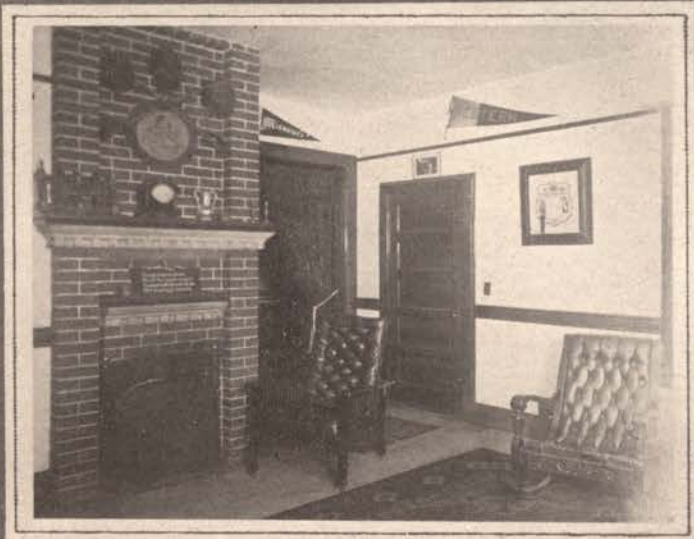


*SOLAR
OBSERVATIONS.*

PETROGRAPHY.







INTERIOR KAPPA ALPHA HOUSE.

Kappa Alpha

Founded at Washington and Lee University, 1865.

Colors: Crimson and Old Gold.

Flowers: Red Rose and Magnolia.

Active Chapters, 48; Alumni Chapters, 76.

Publication: Kappa Alpha Journal.

BETA ALPHA CHAPTER

Established Apr. 27th, 1903.

CHAPTER ROLL

FRATER IN URBE.

Chas. L. Woods.

FRATRES IN UNIVERSITATE.

SENIORS.

Alexis Xavier Illinski.

George Clark Vogt.

John Richardson Kenney.

John Dee Harlan.

JUNIORS.

Sumner Cooley Macomber.

Louie Lincoln Coover.

Edward William Engelmann.

SOPHOMORES.

Leonard Stephen Copelin.

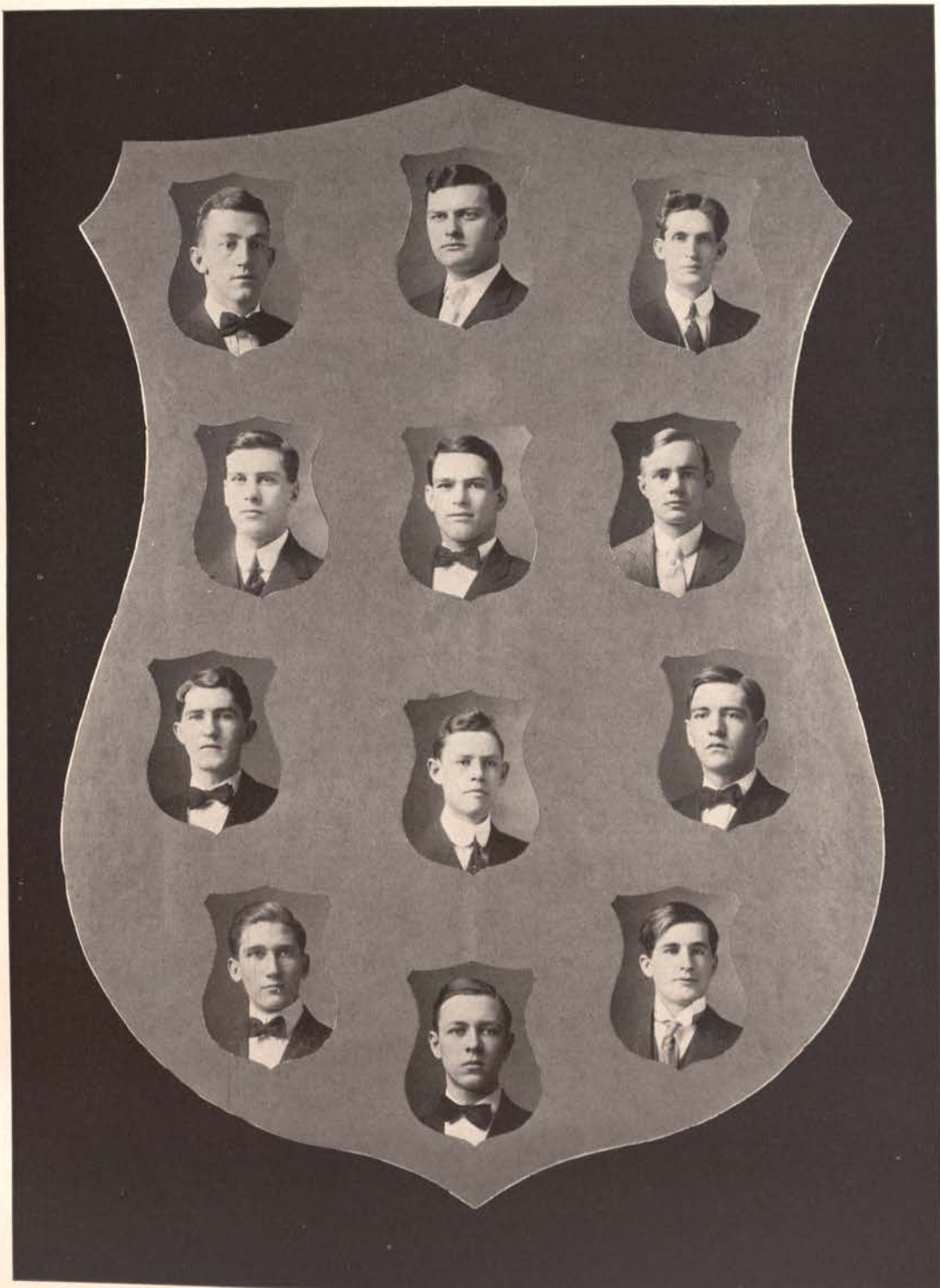
John Lilburn Bland.

Edward Thomas Ustick.

FRESHMEN.

Charles Yancey Clayton.

Frank Lindley Johnson.



Stray Greeks

D. E. ANDRUS	-	-	$\Phi K \Xi$	-	-	University of Wisconsin
A. W. GLEASON	-	-	$\Phi K \Upsilon$	-	-	Bucknell College
J. R. JAMES	-	-	$\Xi A E$	-	-	University of Missouri
I. S. JAMES	-	-	ΞX	-	-	Mass. Institute of Technology
E. D. KATZ	-	-	$K \Upsilon$	-	-	Cornell University
S. P. LINDAU	-	-	$\Phi \Gamma \Delta$	-	-	William Jewell College
R. W. MACKEY	-	-	$\Phi K \Xi$	-	-	Armour Institute of Technology
R. W. RUNNELS	-	-	ΞX	-	-	Miami University
H. L. TEDROW	-	-	ΞX	-	-	University of Missouri



ELLIOTT PRIMA



KAPPA SIGMA HOUSE.

Kappa Sigma

Founded: 1400.

Established in America, 1867.

Colors: Crimson, White, and Emerald.

Flower: Lily of the Valley.

Publication: Caduceus.

Active Chapters: 77

Alumni Chapters: 52.

Bela Chi Chapter installed Dec. 19, 1903.

Kappa Sigma

BETA CHI CHAPTER.

FRATER IN URBE.

Victor Harmon Hughes.

FRATRES IN UNIVERSITATE.

SENIORS.

Benjamin Harrison Dosenbach.
John Charles Clark.

William Hamilton Jones.
Ralph Daniel Killian.

JUNIORS.

David Lawton Forrester.
James Edward McGoughran.
Frank James Flynn.

Stanley Louis Nason.
Benjamin Horace Cody.
Miller Edward Willmott.

James Lawton Keelyn.

SOPHOMORES.

William Bryce Smith.
Norman William Raible.

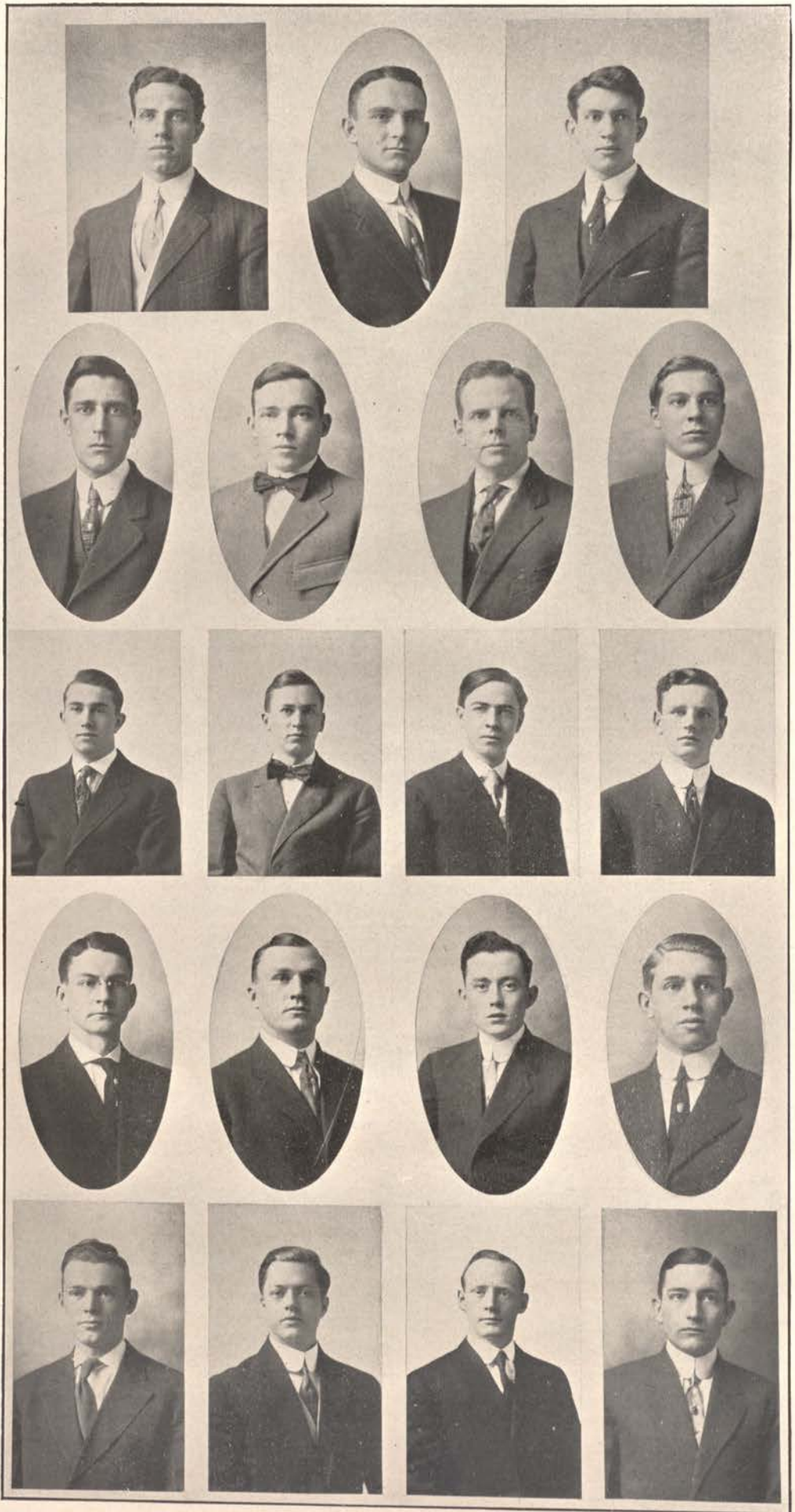
Arthur Wellesley Hackwood.
Thomas Edward Shaw.

George Sylvester Thomas.

FRESHMEN.

Russel Banta McFarland.

Frank Wesley Cody.



Pan-Hellenic Baseball League



The Pan-Hellenic Baseball League was organized in 1906, and is composed of a team from each of the four fraternities. At the end of each season the team having the highest score for that season takes possession of the trophy cup and holds it till the end of the next season, when it is again awarded to the team having the highest score.

Since the League was organized the cup has been held as follows:

1906.....	Kappa Sigma
1907.....	Kappa Alpha
1908.....	Kappa Alpha
1909.....	Kappa Sigma

SCHEDULE OF 1909.

	Games played.	Won.	Lost.	Percentage.
Kappa Sigma.....	3	3	0	1000
Kappa Alpha.....	2	1	1	.500
Pi Kappa Alpha.....	1	0	1	.000
Sigma Nu.....	2	0	2	.000

Kappa Sigma.....	5	Kappa Sigma.....	4
Pi Kappa Alpha.....	4	Sigma Nu.....	0
Kappa Sigma.....	11	Kappa Alpha.....	9
Kappa Alpha.....	9	Sigma Nu.....	5



ΕΠΙΣΤΗΜΟΝΙΚΟ ΚΕΝΤΡΟ - ΕΠΙΣΤΗΜΟΝΙΚΟ ΚΕΝΤΡΟ
ΕΠΙΣΤΗΜΟΝΙΚΟ ΚΕΝΤΡΟ - ΕΠΙΣΤΗΜΟΝΙΚΟ ΚΕΝΤΡΟ
ΕΠΙΣΤΗΜΟΝΙΚΟ ΚΕΝΤΡΟ - ΕΠΙΣΤΗΜΟΝΙΚΟ ΚΕΝΤΡΟ



Πι Kappa Alpha

Founded at
The University of Virginia,
March 1st, 1868.

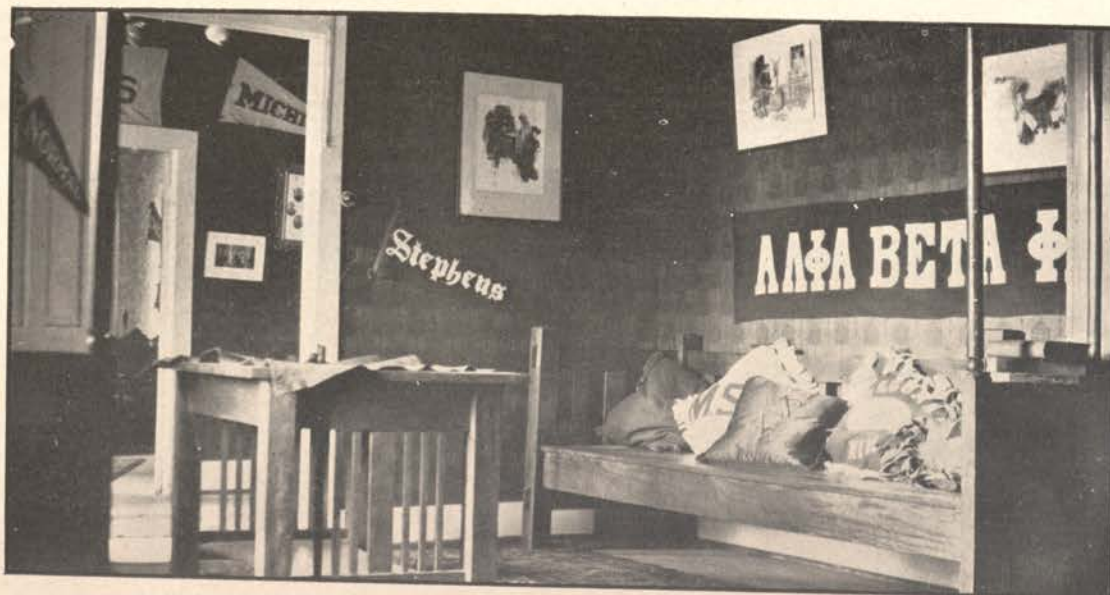
ALPHA KAPPA CHAPTER

Installed December 2d, 1995.

Colors—Garnet and Old Gold.

Flower—Lily-of-the-Valley.

Publications—Shield and Diamond. Dagger and Key.



Pi Kappa Alpha

ALPHA KAPPA CHAPTER.

FRATER IN FACULTATE.

Horace Tharp Mann.

FRATRES IN UNIVERSITATE.

SENIORS.

Harvey Edson Smith.

Theodore Saunders Dunn.

Harmon Edwin Minor.

JUNIORS.

Harvey Skidmore Owen.

James Keller Beach.

Arthur Gustav Pudewa.

Oscar Alan Randolph.

SOPHOMORES.

Donald Hewson Radcliffe.

Harold Dennis McKibben.

Alexander Scott Bilderback.

Eugene Harding Broughton.

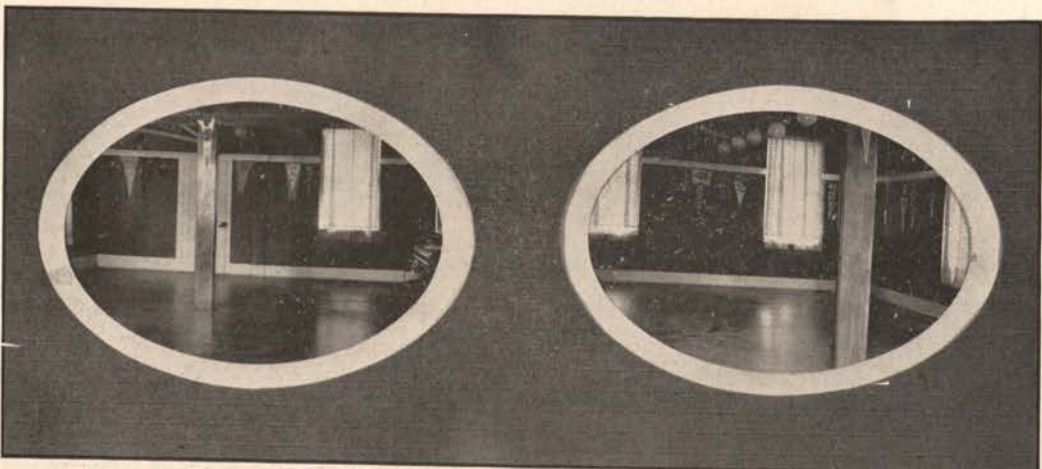
FRESHMEN.

James Floyd Donaldson.

James Peter Tiernan.

Ray Gould Knickerbocker.

Enoch Ray Needles.







Tau Beta Pi

Founded 1885.

Beta of Missouri.

Established December, 1906.

FRATER IN URBE.

V. H. HUGHES

FRATRES IN FACULTATE.

L. E. YOUNG, B. S., E. M.

A. L. McCrae, S. D.

G. R. DEAN, C. E.

V. H. GOTTSCHALK, M. S.

L. E. GARRETT, B. S.

L. S. GRISWOLD, A. B.

D. COPELAND, S. B.

H. T. MANN, B. S., M. S.

C. R. FORBES, B. S., E. M.

FRATRES IN UNIVERSITATE.

POST GRADUATES.

C. W. KENISTON, B. S.

SENIORS.

A. X. ILLINSKI

A. PARK

J. D. HARLAN

L. J. PORRI

R. C. THOMPSON

R. W. MACKEY

H. E. SMITH

J. E. SCHULTZ

M. H. DETWEILER

J. W. BODMAN

R. B. CAPLES

JUNIORS.

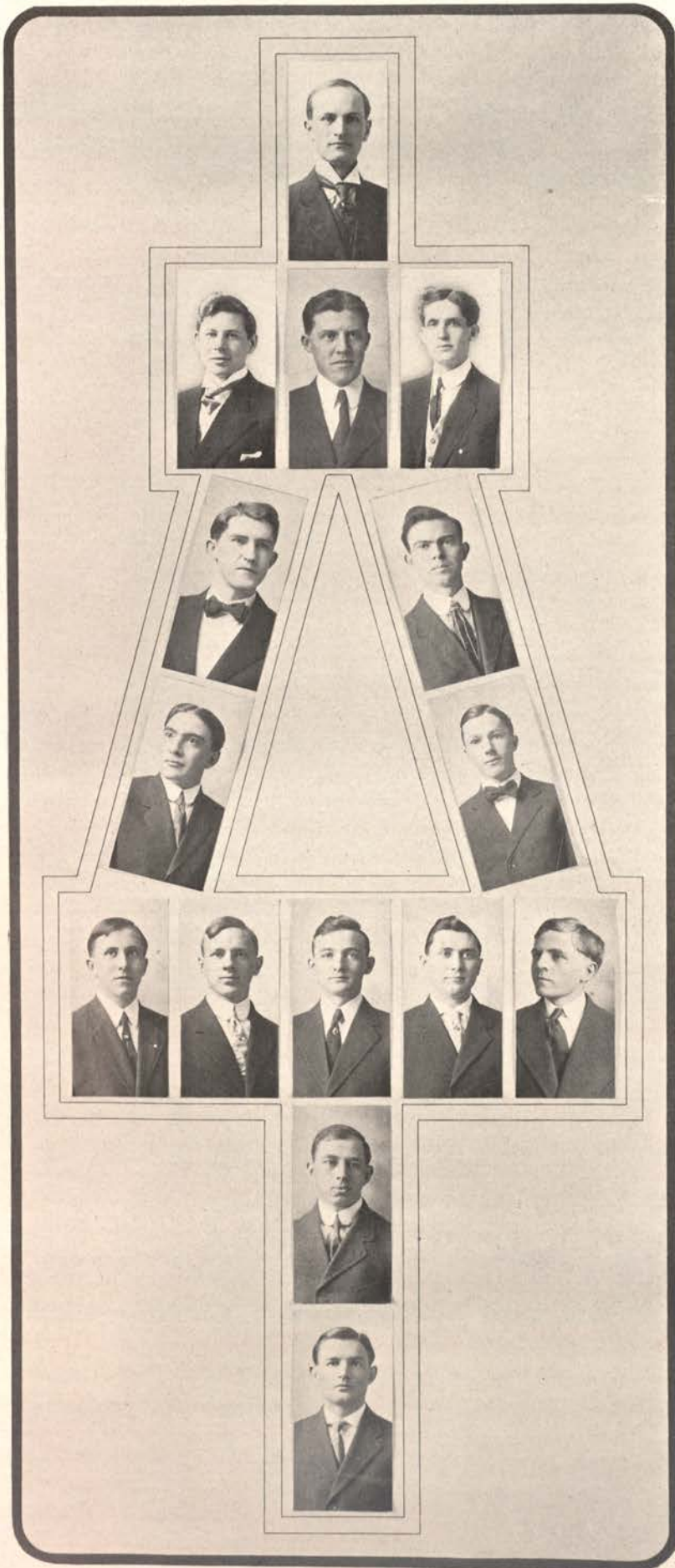
H. P. FORD

O. A. RANDOLPH

T. W. BLAKE

F. E. TOWNSEND

R. B. MITCHELL



St. Patrick's Day

UNTIL the year 1908 St. Patrick's Day was little observed in Rolla, the only evidences of remembrance being a few green ribbons worn by some of the loyal sons from the Old Sod.

In 1908, a few days before the 17th of March, some of the old-time agitators got busy, and in those days when Johnny Bowles and Paul Leming got together something usually happened. The bunch decided that there should be a real celebration at M. S. M. like there had been at Columbia. George Menefee, commonly known as the "Kentucky Colonel," was chosen to act as St. Patrick, and the manner in which he carried through the ceremonies was extremely good, and won the admiration of everyone who saw him. Degrees were conferred on the Seniors, and Director Young and Doctor McRae in addition.

The following year it was decided that the management of the day should be turned over to the Juniors. The ceremonies were very similar to those of the year before, but were more elaborate. The world-famed Windy Holm acted as St. Patrick, and he displayed the same versatility in carrying out his part that he did in everything else he undertook, which was always of the best. Besides the Seniors, Professor Copeland was dubbed Knight of St. Patrick.

This year, as the big day drew near, great anxiety was felt over the report that the Seniors were to be shipped out of town on the annual inspection trip. The Seniors, however, showed the proper spirit by refusing to be walked over, and in a class meeting decided that they could arrange matters so that everyone would be able to get his St. Pat diploma. The committee, consisting of Red Blake, Red Forrester, Mitchell, Hungry and Tedrow, choose Red Forrester for St. Pat and at once began to consummate their plans for the day's program. Freshmen were dispatched to the woods for shelalahs, and by the evening of the 16th everything was in readiness for the big celebration except that no conveyance had been provided for to carry His Saintly Highness in the parade. The committee was in a quandary, but the question was solved by St. Pat himself when he expressed the desire to ride on a water wagon. His choice of a vehicle was excellent, and it should help to correct the false impression that some meddlesome townspeople were malicious enough to start.

At 8:30 on St. Patrick's Day in the morning all true and loyal sons of the muck stick met at the Grand Central Station to await the arrival of the much-beloved Saint, who showed up at the scheduled time, closely guarded by his trusty attendants. The twenty-five-piece high-pressure band struck up "The Wearing of the Green" and the festivities commenced. The line of march was formed as follows: First came the Junior president, Red Blake, in his royal slag-pot chariot, drawn by six stalwart Freshmen. Next came the Rolla band, followed by His Most Holy Eminence, St. Patrick, riding his consecrated water wagon, drawn by prancing stallions. Closely following came the Seniors, Juniors, Sophomores and Freshmen, marching in the order of their seniority.

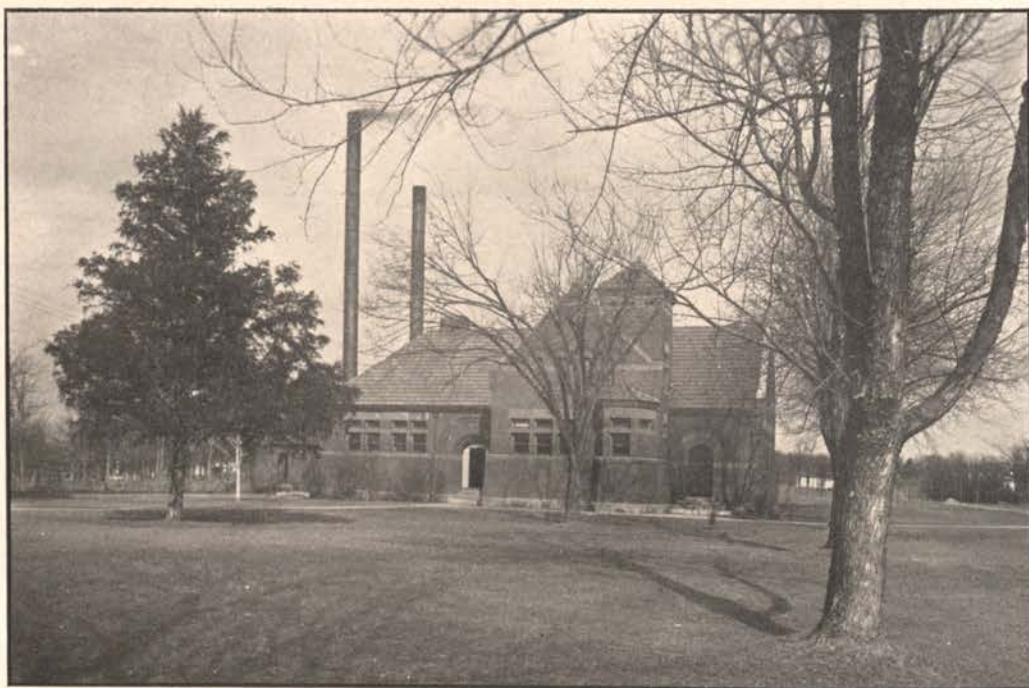
After traversing the principal boulevards, the procession marched to Norwood Hall. Here, under the waving green and the Stars and Stripes, St. Patrick addressed the multitude, and while they kow-towed he called down blessings from above. When the stone bearing the strange inscriptions was called for it was not to be found, so St. Pat had to take his trusty transit to locate the exact spot where it had been hidden. While the stone



was being brought before the throne the throats of two hundred students took up the thrilling tune of "St. Patrick Was an Engineer," bringing tears to the eyes of the spectators.

St. Patrick translated the strange hieroglyphics for the benefit of those who had never been present at the ceremonies before. The inscription read: "Erin Go Bragh," which means in English language, dearie: "St. Patrick was an an engineer." The diplomas were distributed to the Seniors with appropriate remarks as to their accomplishments here at Rolla. St. Pat took great pains to make everyone kow-tow to his satisfaction, but when Professor Dean was summoned to the throne to receive his diploma he humbly knelt at the feet of the Saintly Engineer without hesitation, recognizing the fact that the greatest honor possible had been tendered him at the hands of the students.

After giving a few pertinent words of advice to the Seniors St. Patrick withdrew and the crowd dispersed for the day, there being no official program arranged for the afternoon.



Periculum in Mora

(In which an Alumnus expresses regrets upon realizing that an opportunity to contribute to the pages of The Rollamo is lost.)

MANY weeks ago I received your very complimentary invitation to contribute an article to the pages of The Rollamo, and as this was the first invitation I ever received to back one of the literati, I was considerably "hoped up," and as soon as the blush of conceit had worn off I betook myself to my rathskeller for inspiration, but it came not, and now that the forms of the 1910 Rollamo are locked and forever closed, I regret my lost opportunity to decorate its pages. As I sit, blowing curls of smoke from my "alfalfa" or "hayvanner," I think of so many things that I could have said that would have interested the readers, and it gives me severe pain.

I desire to tell the public what a great thing it is to be a mining engineer and to show why they are, and, of right, should be, as successful in obtaining the goods of this world as a plumber, for are you not taught at Rolla to locate deposits of the yellow metal by the examination of the grass roots? Are you not taught to extricate the metal from the ore and convert it into filthy lucre, all except the stamp of the eagle thereon? Consequently it is only necessary that the graduate of Rolla obtain a stick of dynamite and a pick axe to own a Mercedes automobile and live on cock-tails and thick steaks. I have also known some of the Rolla graduates that were the recipients of the smiles of beautiful belles, which, like the other good things of life, come easy to him who hath a store of aurum.

I might have given instructions in relation to the survey of the old mill pond, the building of the railroad to Ft. Wyman, how to bridge the Gasconade River and how to make two-furnace slag analyses serve as five. It is painful to think of this lost opportunity.

FRANK W. GIBB.



M. S. M. Orchestra

THE history of the M. S. M. Orchestra dates back to three years ago, when a few of the boys met in an endeavor to organize. The charter members were Keniston, Morgan, Nachtman, Mitchell, Johnson, Coaske and Flynt. Keniston was the logical man for the leadership, and kindly offered to act as director.

Our first rehearsal was not a great success, but since it was not altogether a failure we were not discouraged. We felt sure that there was going to be an Orchestra that would, in time, prove a great asset to M. S. M. After a few good rehearsals we ventured to give our first dance to the public, where we made a hit by playing (to the satisfaction of the dancers) the old favorites: Arrawana, Idaho, etc. We produced as much noise as could be expected of any amateur orchestra.

Later we were strengthened by the addition of Prof. Garrett and Van Smith to the Orchestra. New music was purchased and, with a complete Orchestra, we gave a successful concert at Iberia, a neighboring town. Frequently dances were given and we were in good practice for the Commencement exercises at the close of the school year. In former years an Orchestra was brought from St. Louis to furnish the music, but this year we carried off much honor by playing for all the social functions during the Commencement Week.

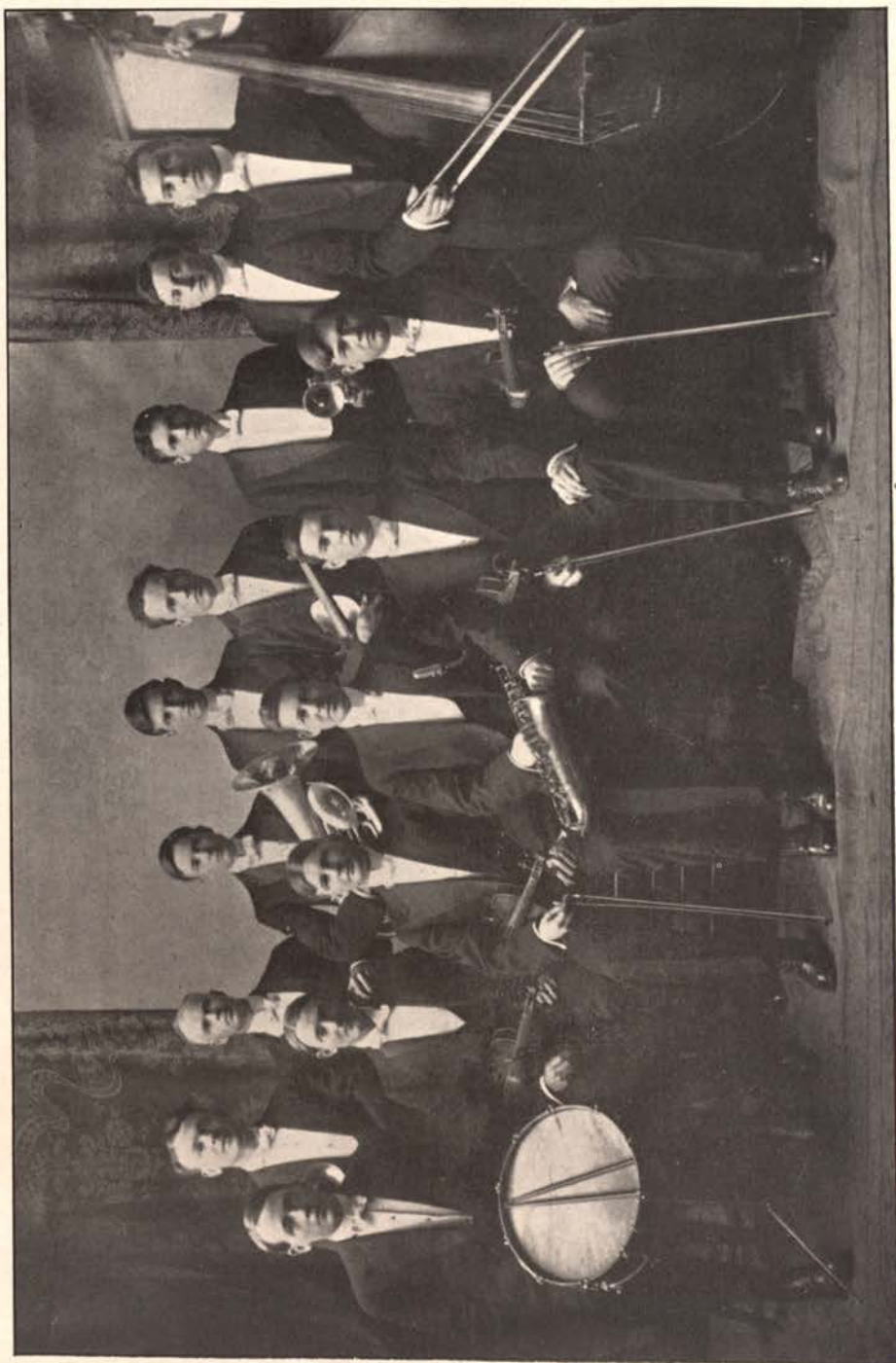
At the beginning of the next year new men took the places left vacant by the departure from school of some of the old boys. Many dances were given and music was furnished for the Miners' Minstrels and other school affairs. We will not here fully describe the details of our trip to Salem, because many things will be better unsaid. However, the Orchestra members will never forget it.

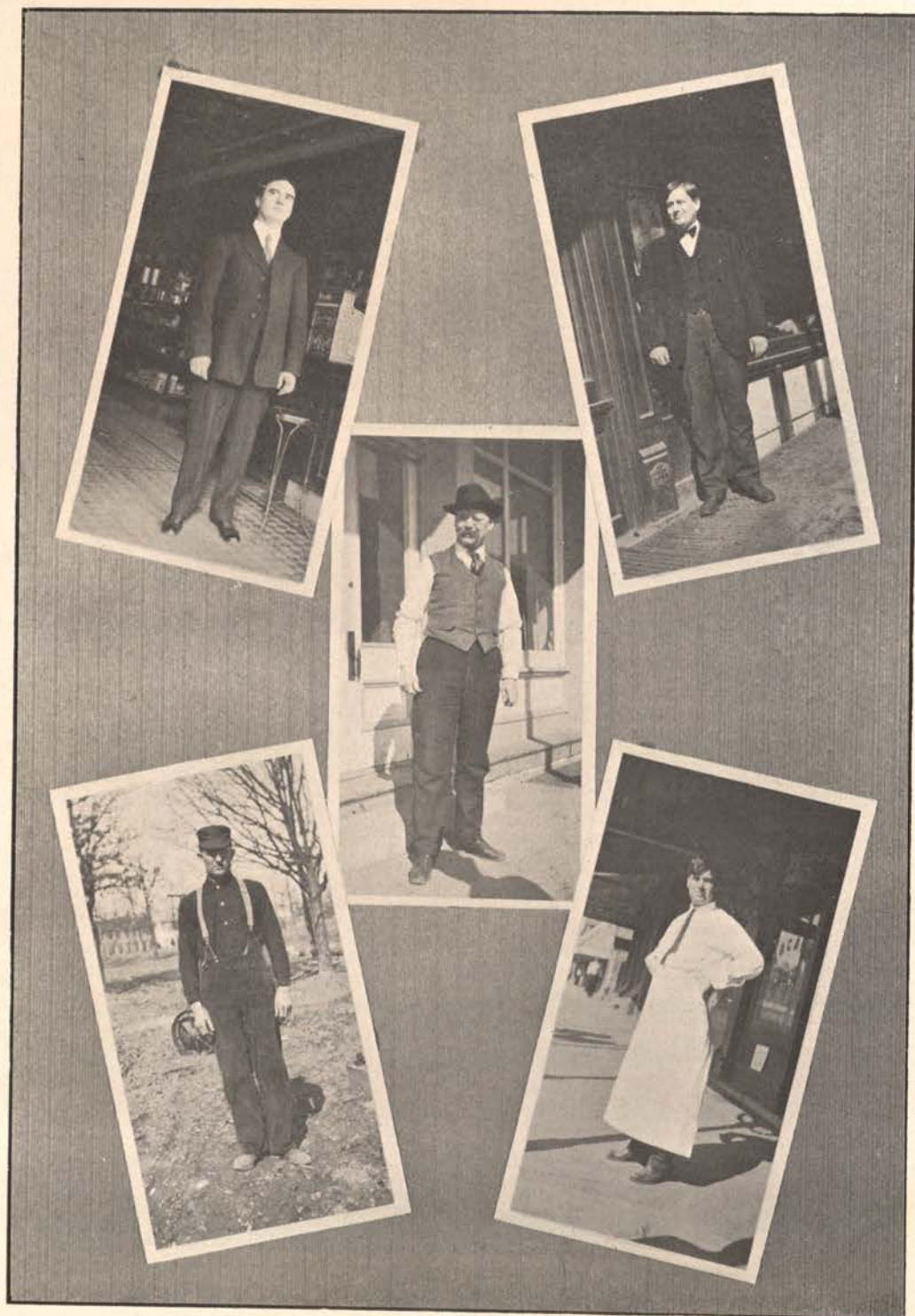
This year we managed the commencement exercises which included two dances, a wax dance and the Annual Commencement ball. This rounded out the social season of M. S. M. and Rolla in a very fitting manner.

Last September we were fortunate in starting out with a complete orchestra and we have kept the bunch together wonderfully. As usual we had several good dances and again furnished music for the Miners' Minstrels and the Rolla Lady Minstrel.

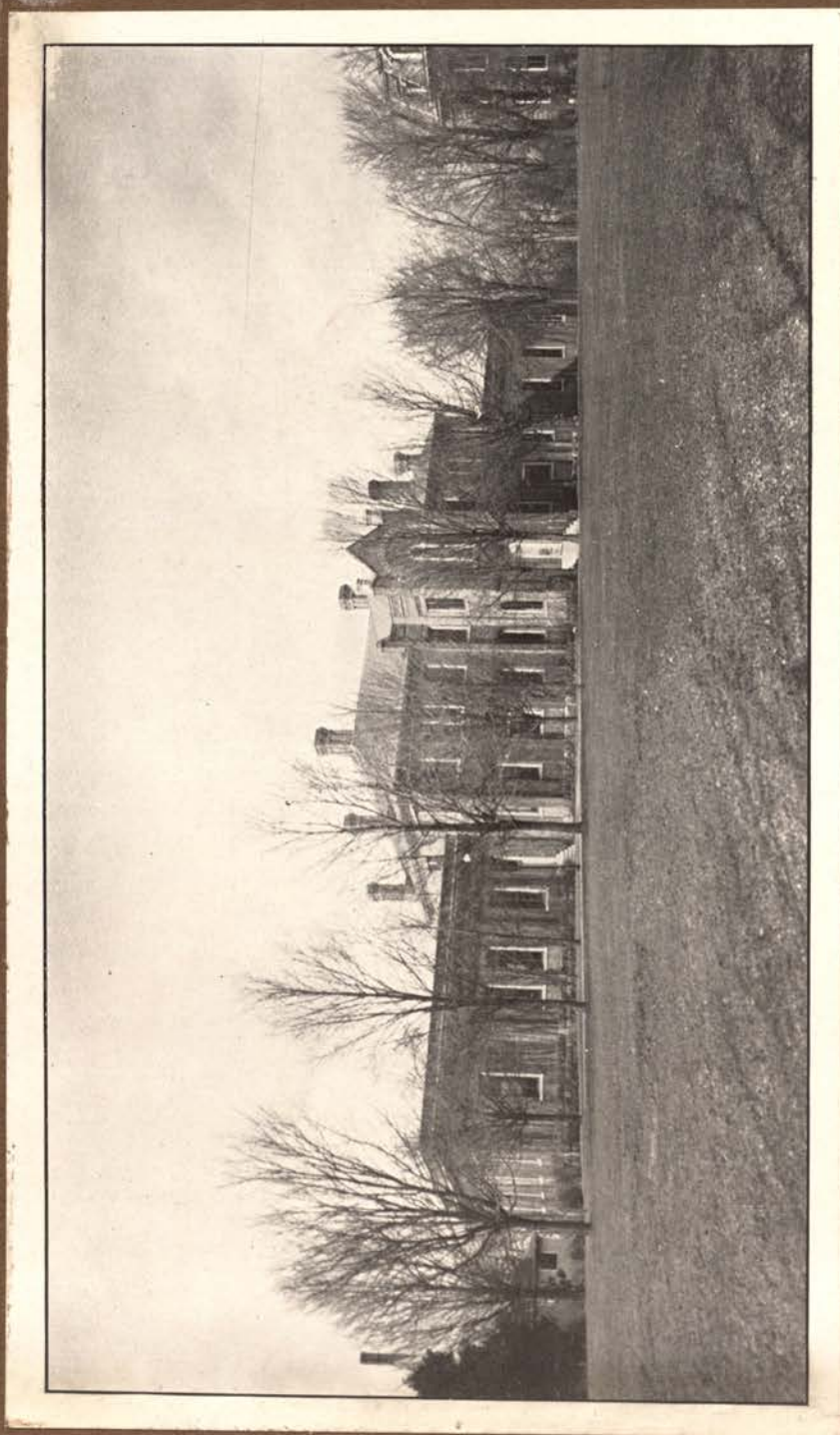
We have always aimed for a good time in connection with the orchestra affairs, trying to please every one and at the same time pleasing ourselves. It has been a pleasure for us to play for any student or town purpose even though nothing were gained from so doing. Foremost in our minds are the numerous kind acts done by Prof. and Mrs. Garrett, Prof. Gootschalk, Dr. A. E. Wood and J. W. Scott. They entered into the spirit of the orchestra doings with as much zeal as did the student members themselves. To them we owe, in a great measure, the success of many of our entertainments.

We sincerely hope that the M. S. M. orchestra will always be on the rise and that each year will see the organization better than the last.





SOME GOOD FRIENDS OF OURS.



CHEMISTRY BUILDING

EATING CLUBS



Grubstakers

REUBEN CONRAD THOMPSON
FREDERICK EDWARD RIEDE
JAMES BUNTEN.
JAMES JOSEPH BOWLES
TRUE WALTER BLAKE
WILLIAM PITTMAN STEPHENSON
GEORGE WILLIAM SCHILLING
GEORGE H. PRATT
OTTO GEORGE GERINGER
MAURICE ALBERTSON
OSCAR CHRISTOPHER WEMHANER
CARL WINTHROP KENNISTON
WALTER DOBBINS
ANTON FREDERICK KARTE
BENTON FRANKLIN MURPHY
J. ADOLPH KURZ.
OTTO ALLEN LUNAK.
JESSE H. BREWER
MATT SCHMICH, JR.
JOHN CHARLES GERINGER
JOHN CLARENCE BOYLE
EDMOND ALLEN FOGARTY
WILLIAM HENRY ELBELT.
BRIGHTON WALSH HUMPHREY



Lucky Strike Club

A. N. DETWEILER, President.

J. K. FORMAN, Steward.

R. H. MAVEETY

A. H. CRONK

H. F. MARSHALL

A. B. BROWN

J. S. IRWIN

O. N. BRIBACH

W. B. GRAY

J. W. BODMAN

R. G. SICKLY

EARL HALLEY

E. J. ALLEN

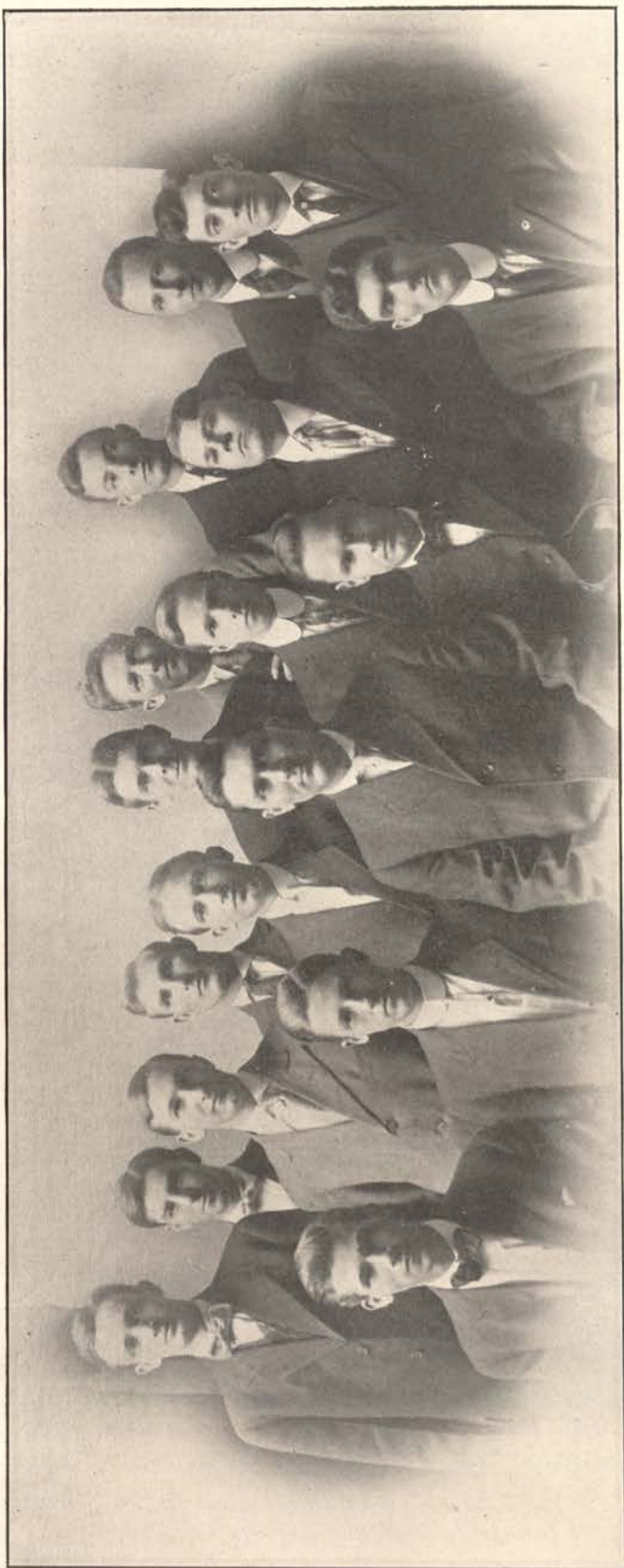
E. R. MORRIS

K. C. FRASER

CAIRY C. CONOVER

S. L. AGNEW

GEORGE H. ZIMMERMAN



R-Way Club

C. C. BAKER.

F. CAPLIN.

E. F. BOLAND

H. K. SHERRY

A. B. MAXWELL

J. L. HASSETT

C. A. SMITH

F. E. TOWNSEND

H. P. FORD

C. A. BURDICK,
President

H. W. CONNELLY,
Steward

H. K. PETERSON

A. H. SHAW

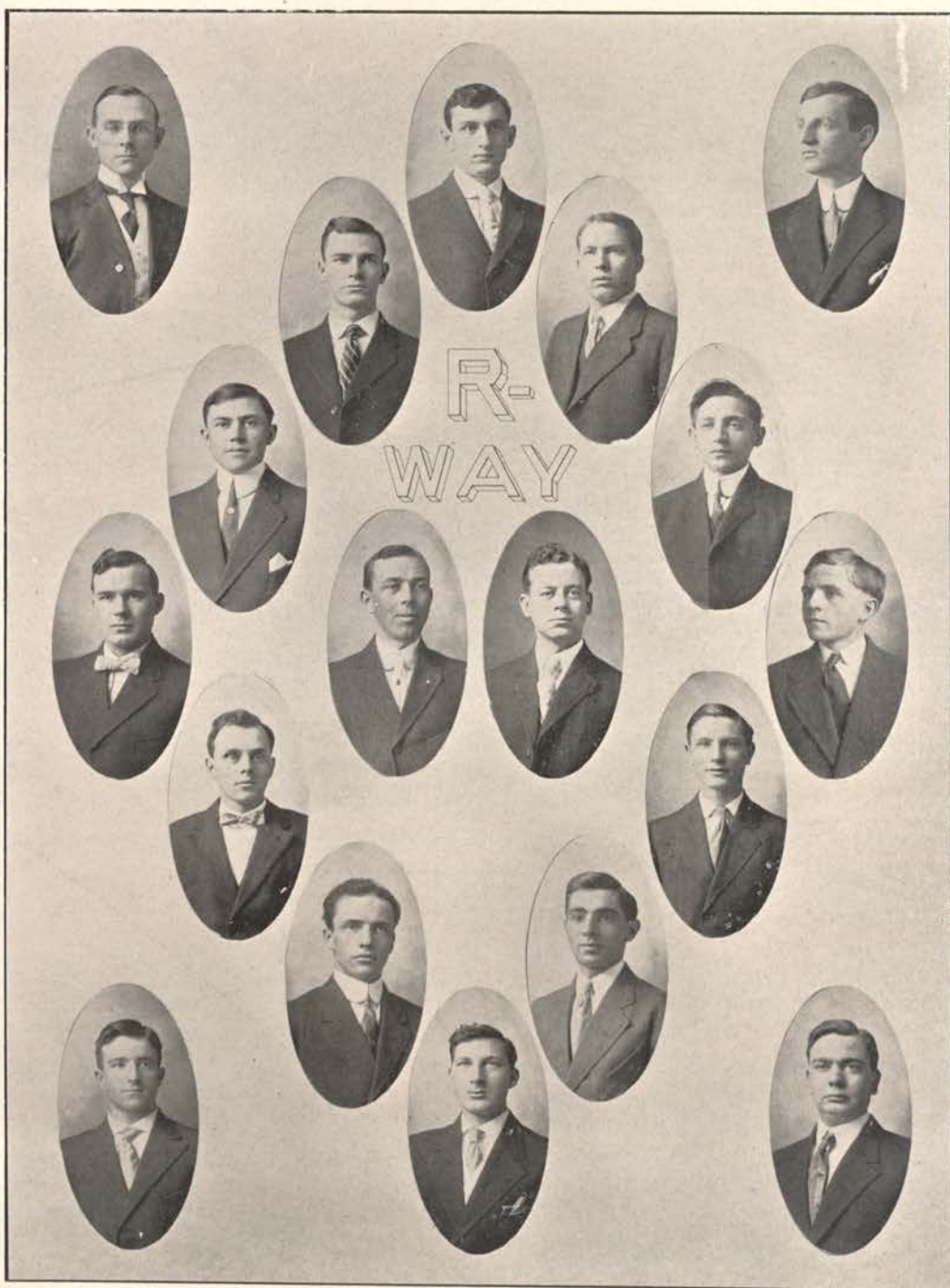
S. P. LINDAU

E. WANDER

WM. G. BRANHAM

G. H. PRATT

W. H. BARRETT, Jr.



The Training Table Club

V. H. McNUTT
C. C. CUSHWA
R. B. MITCHELL
S. R. SCHMIDT
R. E. SPRAGUE
W. G. BRANHAM
C. GREGORY

MONROE FARRAR
R. B. CAPLES
H. L. TEDROW
M. ALBERTSON
C. O. SMITH
H. K. SHERRY
E. R. ABBOTT

C. W. TRAUGHER



Miners' Club

H. E. WHITELEY

J. N. WEBSTER

W. H. HOUGHTLIN

H. A. THRUSH

H. I. BROOKS

C. E. FENDORF

J. E. SCHULTZ

J. W. BODMAN

J. C. BOYLE

E. C. WILSON

J. HOPKINS

W. M. BENHAM



D. M. C. A.

The sixth year of the existence of the Young Men's Christian Association at M. S. M. finds that organization progressing rapidly and one of the features of student life. Its membership has been greatly increased since last year and the good influence exerted by this society has made itself felt throughout the school. Progress has been the slogan, and under competent leadership, great has been the efficacy of this policy in placing our organization among the foremost in this institution.

As the Freshmen arrived last fall they were met at the trains and every effort was made to welcome them, to help them locate rooms and eating places, and to assist in their signing up at school. Numberless new students were rendered help in this way.

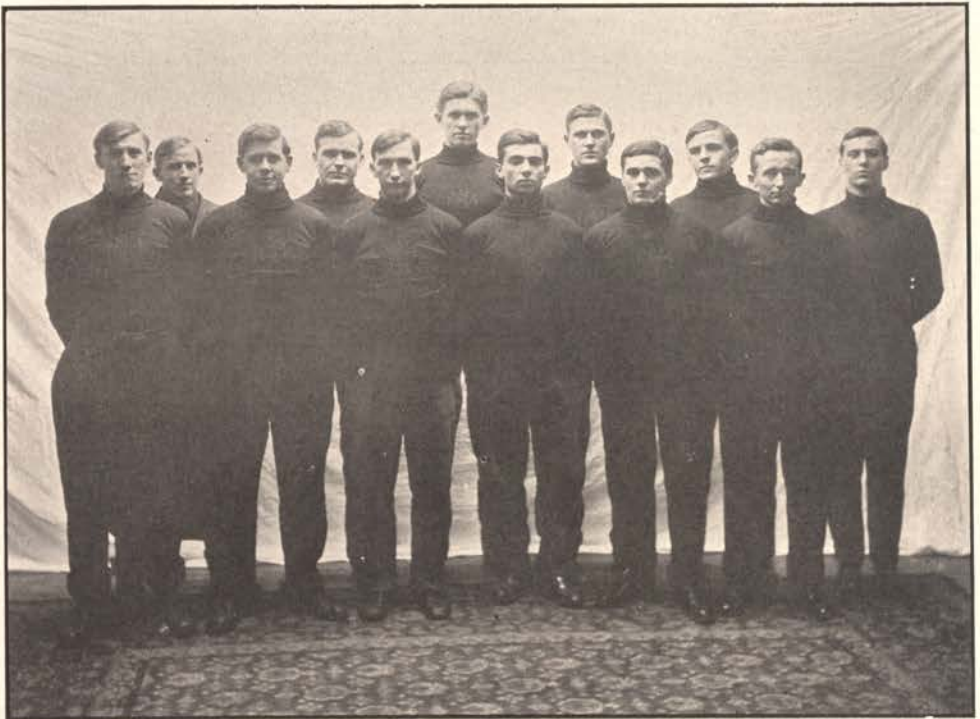
Aside from the regular devotional meetings, which take place every Saturday evening and are always well attended, athletics have been gone into, resulting in the organization of most successful football and basketball teams, which have been a source of much benefit and enjoyment to many of our number. We expect also to turn out crack baseball and track teams this spring.

The intellectual welfare of the community has been well cared for by the lecture course which is always well arranged and keenly appreciated by students and townspeople alike. This year the course consisted of seven entertainments, each of which was the best of its class; embracing talented musicians, orators, impersonators, literary lights, and various other high class talent.

From all standpoints we are highly satisfied with the progressive strides taken this year and we feel that the year's work has been highly beneficial to each and every member, as well as a credit to the organization and to our Alma Mater.

D. M. C. A. Members

J. K. FORMAN	ALBERT PARK	K. C. FRASER
C. W. TRAUGHBER	R. A. BINGHAM	A. N. DETWEILER
SHIV RAJ	C. C. CONOVER	F. E. TOWNSEND
J. R. KENNEY	WARD FAULKNER	H. MARSHALL
H. BROOKS	H. A. THRUSH	ROSWELL MAVEETY
C. A. BURDICK	H. PETERSON	L. J. BOUCHER
H. E. WHITELEY	WORTHY ROACH	VAN LEISURE
R. G. SICKLY	O. C. CLAYTON	J. C. BOYLE
W. M. BENHAM	J. F. DONALDSON	W. F. BREWER
O. W. HOLMES	W. H. BARRETT	J. D. HARLAN
C. W. KENNISTON	J. A. KURZ	E. D. LYNTON
R. H. TOWNSEND	E. WANDER	E. J. ALLEN
V. H. McNUTT	C. O. SMITH	T. WILSON
J. WILSON	H. P. FORD	C. Y. CLAYTON
L. E. HOLLISTER	MONROE FARRAR	



Y. M. C. A. FOOTBALL TEAM.



Y. M. C. A. BASKET BALL TEAM.

The Senior Trip

“WE are led to believe from the evidence at hand, etc.,” that, among other things we learned (and are supposed to have learned) on the recent Senior sojourn to the Joplin district, that Mining Engineering is a grand profession, a noble vocation and a commendable accomplishment for any ease-loving young man who likes a nice quiet occupation with very little work, large pay, and easy hours. It inspires one beyond measure to be permitted to enjoy the rare privilege of visiting these scenes of practical activity in our chosen calling. It is vastly different from the theoretical view that is flashed upon our young and unsuspecting minds by the various and sundry professors in charge of our mental development. It is so different in fact that many of us are almost inclined to give up this commendable pursuit and go into train robbing or some equally demure profession of less dangerous propensities and more certain recompensation.

But to get down to the trip itself “in detail,” as JoJo would say. Professors Griswold, Dudley and Forbes herded the gang and we sallied forth in search of knowledge and “other things.” We found the other things, all right. Bodman and Porri claimed to have learned something. Oh, well, we can’t be held responsible for every one and if they persist in letting their studies interfere with their “college education” it is their own loss. We visited many mines (in fact it seemed all the mines in the district) and each one was “different”—Griswold said so and told us why—that’s why we know. We admit that there are some differences. For instance, there is fully three miles difference in location between each and every one of these mines, which distance we walked, or rather marched after our “little leader” to the martial tune of “Follow, Follow, We Will Follow JoJo.” Another difference that we noticed was the method in which they dropped you down the shaft and the accompanying sensation. Some places you were shot downward through the Carterville, Cherokee and Boone formations in a “bucket.” This method of descent causes a peculiar feeling in the abdominal region that might be likened to that which most miners experience the “morning after” St. Patrick’s Day. Another method is to slide down on a so-called “skip.” This is a lot nicer method, as you can catch one or two breaths and wink your eye without striking the sides of the shaft. This sensation is not so violent as that produced by the “bucket system,” but nevertheless it had the same effect as the previous mentioned method of descent on Joe Bowles. Joe took oath that “he was going down the stairway on the next trip down.”

Well! We went down the shaft and into the mine proper (all except Porri and he was on top waiting for Clay (Gregory). The dark, damp vault was stretched before us. We could not see anything but a few lights in the distance. They looked like lightning bugs around a “hot tamale” peddler but they turned out to be “mining engineers” with sunshine lamps on their caps. Next we heard a rapping sound like a male woodpecker on a schoolhouse door and these turned out to be some more “mining engineers” working with an air drill. We lighted our candles and the boss at this stage of the game quit cussing the “mining engineers” long enough to steer us around through the mine, meantime telling us encouraging stories of how the mine roof was liable to shed a ten ton boulder on our unsuspecting heads till the boys got to fighting among themselves as to which one was to have the first ride in Hawkins’ hearse



when their "remnants" were brought back to Rolla. By great care, however, we managed to pick our way through the stopes and drifts without being flattened by a boulder from above.

On one occasion Minor called Buck Owen's attention to the fact that he was about to step on a piece of dynamite; which caused Buck to swallow a perfectly fresh "chew" of Piper Heidseck and nearly dislodge a boulder from the roof in his frantic efforts to get away from this immediate vicinity. The boss said that dynamite was not dangerous and picked it up and handled it with the same careless ease and abandon that a policeman would use in manipulating the contents of a free lunch counter.

These trips through the mine were very enlightening and clearly demonstrated to all that a mine would be a very poor place in which to spend the rest of our working days, and that Jo Jo can talk for hours and not say anything. We went through this same routine for three whole days, examining everything from chert nodules to the various brands of liquid refreshments in which Joplin abounds. (They sell to Students down there.) We carried away on departing a confused memory of mines, mills, drills, long tramps and a vivid recollection of Jo Jo and Dudley on their first automobile ride, Jo Jo with a specimen of the Pennsylvanian age clasped closely to his manly bosom.

We got back to Rolla in the gray dawn of St. Patrick's day, after an all night ride that was most monotonous. This monotony was relieved by Joe Bowles' frequent and penetrating cries of "I'm a lark," etc. On St. Patrick's Day we attended the exercises and the conferring of the degree "Knight of St. Patrick" on the Seniors. This is the only degree some of us will ever have the pleasure and honor of receiving and we appreciated the solemnity of the occasion. In the afternoon the boys adjourned to the abundant timber which graces the outskirts of our bustling little village. This little social gathering to which every M. S. M. student was cordially invited was purely a "social gathering," for the purpose of renewing "old acquaintance" and initiating the new men into the established and highly enjoyable methods of paying fitting homage to our patron Saint, St. Patrick.

In St. Louis the next morning an enthusiastic bunch still possessing a thirst for knowledge and other things, started out on the metallurgical end of the trip under the wing of that illustrious and well behaving professor called Copeland and his body guard, Mann. St. Louis affords an excellent opportunity for the embryo metallurgist to invest himself of such knowledge, as may, at some future time, be of assistance in his scramble for his daily bread. Here we saw blast furnaces, zinc retorts, air compressors and incidentally we saw Ruth St. Denis (the barefoot dancer) and two swell shows at the Gayety and Standard Theaters. Nothing much of importance happened except that Farrar pronounced the iron slag pile to be a Bornite deposit, and the bunch visited the Anheuser-Busch Brewery en masse.

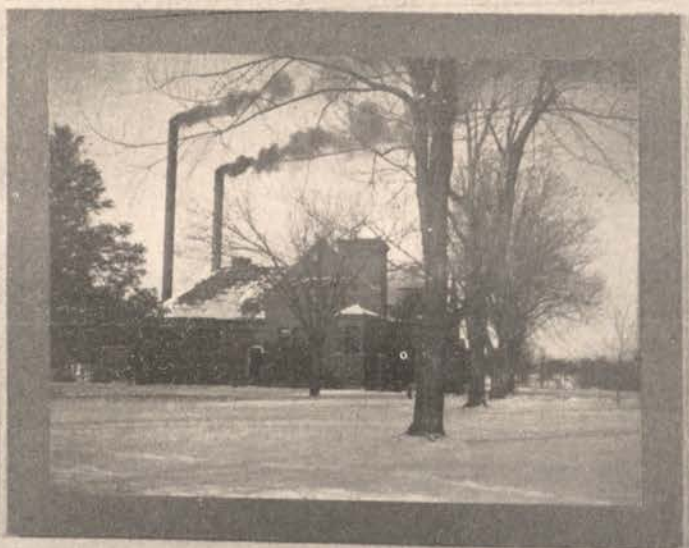
All the bunch got safely over the trip and came back to Rolla with the just convictions regarding the life of a mining engineer that we have endeavored to chronicle in the early part of this article.

This trip marks the last of the gatherings that good old 1910 will hold as a whole. It has been four long years of hard grind for some of us but it seems only yesterday that we rushed the Sophomores of 1909 and attended our first "formal function" out at the "Cut." These years are gradually becoming a memory. In a few days the curtain falls on college life and

we go forth to enter into the life we have chosen with all its drawbacks and hardships which we have herein described.

So with a reminiscent nod let us dismiss the life at M. S. M., which has been so pleasant to us, and look upon this our last Senior trip herein portrayed and the incidents thereof as a fitting memorial and culmination to the school days at M. S. M., where we have enjoyed "good" times, "good" fellows, and the comradeship of the future "good" mining engineers that are banded with us in the bonds of 1910.





Jokes?

Mook's Joke

Tommy Murphy said: "I whipped Moran in Boston in twelve rounds. He got a Boston decision over me."

Perhaps the Juniors understand now.

Editor's note of explanation: Colonel Bob's over-developed sense of humor has led him to believe that everyone can see the point of the above joke, but we deem it necessary to add the following explanation. We wish it understood that Murphy and Moran weren't any ordinary street fighters, but were high-class prize fighters, Murphy thinking himself much the better of the two. Now, unfortunately, these fighters were lured into Boston to fight a twelve-round bout. Murphy was sure that he had the better of the fight, but the referee declared he had lost. Murphy thought he had been given a rotten decision, a Boston decision, in other words. So much for Murphy and Moran and the decision.

Be it further understood that Prof. Griswold is from Boston and that Colonel Bob "conned" Geology again, and that it has been his custom during the last five years to spring some mean joke on Jojo each time the unjust Professor "conned" him in the said Junior Geology. Now we don't know whether Jojo "conned" him from force of habit or whether the Colonel just pulled down the "C" according to custom. Nevertheless, Colonel thought it was an unjust, or, in other words, "A Boston decision."

You have all the data on the above joke now. Read it over again and if you can raise a smile your case is hopeless and it wouldn't take a Boston jury to classify you with Colonel.

Can You Imagine This?

Clay Gregory—Working.

Park—At a "bust."

Colonel Mook—Graduating.

Boland—Leading prayer meeting.

Connelly—Teaching ore dressing.

Dosie—Keeping bachelor quarters two years from now.

Hungry—Friendless.

Gleason—Beating somebody's time.

Eva Endurance—Running an assay office.

Jim Keelyn—Not starting something.

Farrar—Holding a job.

Pat Murphy—Not making good.

Frank Blake—Beating everybody in his class, as he asserts he will.

Joe Bowles—Fighting society.

Rolla's "400"—All married by 1950.

Prof Copeland—Doing it now.

Jojo—Giving a lecture without his pony.

Ed Ustick—Missing a week-end at St. James.

Bilderback—Without the most minute knowledge of everything and telling it.

Bill Porri—Over his freshness.

Johnny Clark—Neglecting his girl long enough to play baseball.

Diaz—Swearing well in English.

Louie Porri—Doubting anything Clay says.

Bodman—Doing anything for The Rollamo.

Burdick—Making a frat out of his "beanery."

Hackwood—Not enjoying a rough-house.

Howard Katz—Not imparting all his knowledge at the first opportunity.

Peterson—Springing a real joke.

Johnny Stewart—Not wanting to dance.

Tedrow—Driving home from Saltpeter Cave without hitting every tree on the roadside.

The Student Body—Getting a square deal at the hands of some of the sore-headed townspeople.

Ore Dressing as She is Taught by Dr. Dudley

ENTER the Senior Ore Dressing Class midst clouds of smoke and peals of boisterous laughter. Several chairs are wrecked on unsuspecting heads, litharge flows like beer over the Arcade bar when exams are all over and all visible glassware is demolished except the windows, which are needed to safeguard the feeble heating system against the cold outdoors. The wounded are carried out and new chairs are ushered in.

Meanwhile, the "Boy Wonder" stands helplessly at the board with a please-stop expression on his face, and timidly toys with pieces of colored chalk. "Now then," he ventures, "if you fellows will please cut out this rough-house we will proceed with——" At this point he skillfully dodges a snowball from the "happy corner" and dexterously slides under the desk as the Colorado Bunch rain pieces of slag and lead buttons at the front board. The fusillade continues until everything that can be jarred loose has been projected at his vanished form and the demolition of all fragile objects in the room is complete. The front half of the room looks like a marine disaster.

As the last chunk of ore crashes against the desk a faint rustling is heard, and the "Beardless Genius" cautiously peers around the corner of the debris. As his appearance meets with no violent response, he gradually extricates himself from the wreckage, rises up on his legs and again pleads for order. His pleas fall upon deaf ears, however, as the class is equally divided between reading the *Saturday Evening Post* and soundly sleeping. Knowing that to expect anything else is useless, he proceeds, to the deafening accompaniment of chair squeaks, caused by the readers as the story waxes interesting.

"Now, fellows, you have got to settle down to business. There are only ten more weeks, and we got to go over last year's work seven more times. We will take up for consideration this morning the subject of stamps. Now, there are——"

"Hey, Dud, take out this dog. He smells bad," comes from the middle of the room. Fearful lest noncompliance with this request would cause a renewal of hostilities, Dud stealthily advances on Possum, grabs him by the tail, and triumphantly drags him from the room midst an uproar of yelps—canine and otherwise. After carefully removing all traces of dog from his person he resumes:

"As I was saying, a flow sheet of this mill shows that pyritic smelting——" But why linger over what he did say? Everyone was in slumberland. And, anyway, you can find the identical words he used in Richards. He droned along for the balance of the hour until the alarm clock in Clay's pocket reminded him that it was time to go out and get his daily trimming in tennis.

From Exam. Papers

The ancients made "experiments upon the earth and moon."

The sedimentary rocks contain "remains of organic and inorganic life."

"The ancients determined the size of the earth by means of the nebular and planitesimal hypotheses. The theories of Aristotle and Pythagoras were also brought into play."

A new mineral, "Scaprolight."

Subterranean erosion is larger in lake than in oceans.

A sink hole is a marsh or piece of very low size which has become very soggy and wet, due to the melting of snows and other H_2O agencies.

"When a glacier drops a drumlin and gets strength enough to pick it up and carry it again, the result is called a 'Roche Moutonee.'"

"Geological effects of earthquakes are a phenomena."

"Ox-bow lake is a lake made by buffaloes."

Definitions of an amigdule: 1. "Microscopic organic material which occurs in lakes and in oceans, forming deposits of infusorial earth." 2. "A little animal."

"Igneous rocks are divided into several classes: obsidian, porphyritic, granitoid, and ground mass."

"Animorphous structure is noted for some rocks."

"Tin and granite go hand in hand."

"The quartz veins were of deep seeded origin." Sown, perhaps, when tin and granite took their promenade. We would like to know how many gills of seed were necessary to produce the "quartz" vein.

"The Wilfley pulsator jig is somewhat similar to the Hancock jig, only it has a different driving mechanism, to impart motion to the screen, this being done by toggles. The toggles give a slow starting motion. The speed increases and makes a sharp turn on the way back."

"The ore bodies of the Joplin District occur mainly in Precambrian time. We find mostly the Gasconade and above this the Bariboo. The structure of the rock mass in this Joplin District is not very difficult, as very little are found."—Taken from a Senior's final in Economic.

" HNO_3 plus finger nails equals worms.—A la Shorty Hanes.

"The law of multiple proportions is when two or more substances form a series of radicals they are proportional."

"In water evaporation the particles are continually jumping out of the vessel and returning."

"The kinetic molecular hypothesis is the pressure on the substance."

"Deliquescence does not act vigorously. Effluorescence acts vigorously."

"The earth is an obsolete spheroid."

"Horse power is the distance one horse can carry a pound of water in an hour."

"Gravitation is that which if there were none we should all fly away."

"The vacuum is a large empty space where the Pope lives."

"Tennyson wrote 'In Memorandum.' "

"Gender shows whether a man is masculine, feminine or neuter."

"If the air contains more than a hundred per cent of carbolic acid it is very injurious to health."

"An angle is a triangle with only two sides."

"Algebraical symbols are used when you don't know what you are talking about."

"A parallelogram is a figure made out of four parallel straight lines."

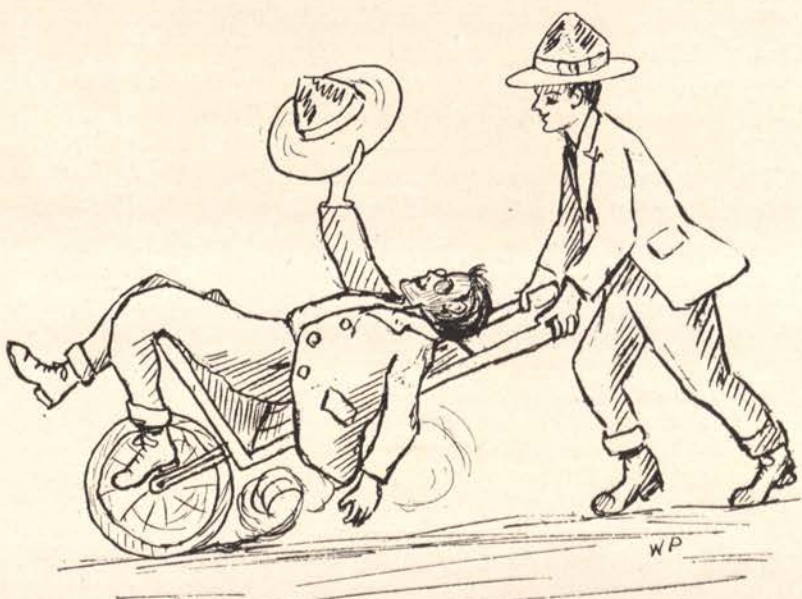
"Parallel lines are the same distance all the way."

McNUTT says that no matter what he JOINS it will never be a FRATERNITY

GOTTY says he TALKS plain enough, but the Freshies are SLOW

COX maintains that although his head GROWS balder every day, he still has some HAIR

DENNIE claims that although he does NOT care much for the Rolla girls, he does enjoy one who is FAST



Pete's Joy Ride

Questions and Answers

1. What is mining engineering?

Ans. Mining engineering is the art of drilling, driving and dodging as fast as possible and getting as much as possible out of it and as soon as possible.

2. What is the greatest engineering feat of modern times?

Ans. Honors equally divided between digging the Panama Canal and the erection of the east wing of the Metallurgy building.

3. What is a gas engine?

Ans. Some oil cups attached horizontally to a fly-wheel—and a cylinder or two with electricity as the medium. To start—turn on the fly-wheel and then properly adjust the oil cups so that the electric current will flow evenly through the various parts. If you don't succeed then use the crank method.

4. What is calculus and where applied?

Ans. A variation of the Greek alphabet so prepared that we will study it without thinking that we are kidding ourselves. It is applied only on the blackboard in the Rolla building.

5. Why is Lent?

Ans. To give the Rolla girls a rest and the boys a chance to pay their bills.

6. What is Alternating Currents?

Ans. A deadly foe of geology option.

7. Why does Dean go fishing just before an examination?

Ans. To see which is the best bait for suckers.

8. What is the effect of ore in a nail assay?

Ans. To neutralize the soda and silica and to help fill up the crucible.

9. Who is the bravest man in Rolla?

Ans. Riley Followill when Danny Mac is near at hand.

10. Give good illustration of generosity at hands of a student.

Ans. Caplan letting Butch drink his keg of beer.

11. What change is made in the hydraulics course this year?

Ans. Bathing suits required instead of text books.

12. Why do we have compressed air lab?

Ans. Because the engine room is a comfortable place to spend an afternoon.

The Bad Bunch at Joplin

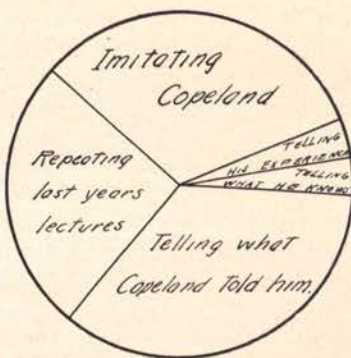
Honorary member of the Y. M. C. A.: "The whole darn bunch is going to the bad, have you noticed it?"

Active member of the Y. M. C. A.: "Why, no, I don't see anything wrong with them."

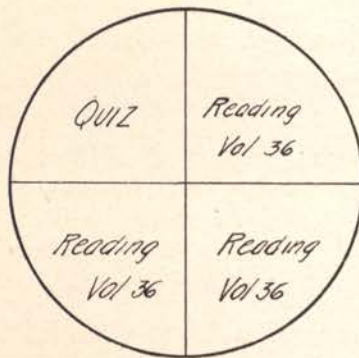
H. M.: "I tell you, last night I caught Bodman and McNutt drinking ginger ale in a saloon. When I came out I met Louie Porri smoking a mosquito-proof cigarette, and before going to bed I saw Schultz and Stewart engaged in a prospecting trip along Main street."

Vogt likes to stay home and study, because it Makes the St. James girls sore, but at that he can't find his name on An Exempt

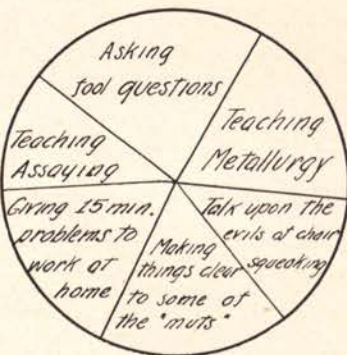
MICRO-SECTIONS OF LECTURES.



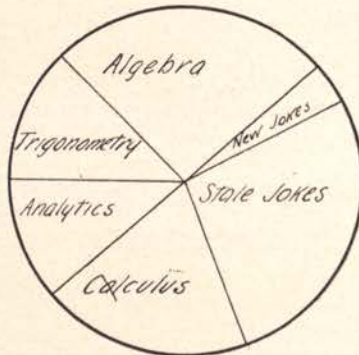
DUDLEY IN ORE DRESSING.



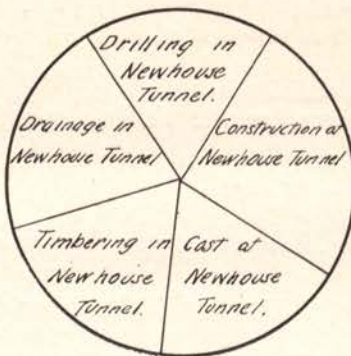
GRISWOLD IN GEOLOGY.



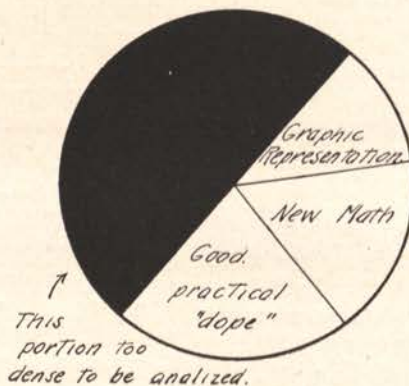
COPELAND IN METALLURGY



DEAN IN CALCULUS.



YOUNG IN MINING



HARRIS IN COMPRESSED AIR.

Young sometimes Opposes "gambling parties," but Athletics
everyone knows he is strong for

Bill Smith says that even if a person is Not allow him
very handsome it should to become Conceited

Prof. Forbes says if Ohnsorg ever Quits hanging around he will
make his home in the Library

Selected "What Nots"

One-Act Tragedy.

Profesor—"We will have a little written exercise this morning. The subject will be 'Describe in detail the relationship existing between the theory of magmatic segregation and the genesis of bog iron ore deposits.' Seven minutes will be allowed for this exercise."

Van Hise Bowles to Archibald Geicke Bolander—"What do you know about this?"

A. G. B. to V. H. B.—"Didn't I write Volume 36 upon this very subject?"

Prof gets out his deck of cards and indulges in a seven-minute game of solitaire. He has to cheat to beat himself and this makes him sore, so he collects the papers two minutes ahead of time, settles himself behind Monograph 19 and reads:

"Arguing from a crystallographic standpoint, polysynthetic twins of heterogeneous as distinguished from homogeneous interpenetrating paragenic lamellae of the triclinic feldspars may be considered as highly diathermous, but empirically speaking the birefringence as exhibited under the microscope with crossed nicol as illustrated in the pseudomorphous pleochroism of biaxial xenomorphous orthorhombic tetrahexahedrons together with the dispersion of the bisectrices and stauroscopic irregularities as is evidenced by simultaneous anomalies of isodimorphism, sepiolitic and hygroscopic characteristics we are led to believe that geniculated metagenic hexakistetrahedrons of Wismuthantimonnickellite belong to the domain of crystallography.

"From the foregoing evidence we are led to believe that the ore occurs in cracks and crevices and disseminated throughout the rock mass between the Negaunee and the Wee Wee Slats, on the bottom side of Michipicoten Island. For a more comprehensive consideration of this subject I will refer you to the very excellent work by Mr. Wade Connelly. Then follows a discussion of the origin of the ore deposit but, as I hardly agree with Mr. Van Hise or Mr. Kemp, I will omit it, and read to you, gentlemen, from my notes which I compiled after a very exhaustive examination of the deposit in question. From the evidence, as shown by the tilting of the rock strata and the presence of hillside springs on the highest peaks of this Animikeewanawan mountain range, metasomatic replacement may have been a factor in the formation of these ore masses, but the widespread occurrence of sink holes sunk upward in the impervious quartz schist would lead one to believe that igneous agencies may have influenced the deposition."

Bell rings and Jo Jo pushes a five-hundred-pound Ichthiosaurus off the table with a resulting crash loud enough to wake up the new men; the old timers shamle somnambulistically out of the room from force of habit, to be awakened by the hard-hearted Cope, who trips them one by one as they stumble into his room.

Danny Mac acknowledges he Loves rattlesnakes much better than Students

Dudley although he has had no experience, as everyone Knows thinks he can tell all about Ore Dressing

Prof. Copeland says that although he Gets older every day, that is no reason why he should get Married

McFadden: "Why, anybody knows that a pound of lead is heavier than a pound of feathers." And then he got sore because the bunch laughed.

After Prof. Copeland had elaborately explained how and why the dry blast refrigeration scheme was worked Bob Morris wanted to know if the blast was frozen in the furnace.

Caples: They ought to call you seltzer, Clay.

Clay: And why is that?

Cape: Because you are always chasing booze.

Miss Hirdler's chaperone, besides serving well the purpose for which she was taken along, took keen interest in the work under consideration and proved to be an apt pupil. On the second trip she showed her time had not been wasted by asking Prof. Griswold where the outcrops of "carniverous" rocks were to be seen.

On the Colorado Trip

The bell tingled like an ulcerating tooth hit by a dentist's drill. The porter, dropping a sleepy cussword, hastened to berth eight, where Frank Blake was boring the button into the side of the car.

"Gee," he explained, when shaken into sensibility, "I was dreaming of draughtin' and was just putting a thumb tack into the paper."

FARRAR although MAKES good time in the mile, TAU BETA will never make

Hungry made the rash assertion in metallurgy class that the reason that eggs could not be cooked on a high mountain was because of the humidity.

This Is On Jimmy Beach Again

Little Helen Underwood, to her mother: "Mamma, I looked through the keyhole when Jimmy was calling on Elsie last night."

"Well, Helen, what did you find out?"

"The light."

MAC would be a good student but he HATES to study and would rather KAT go to see

"Well—now—when—I—worked—on—the—Lackawanna."
—Terry Deliberateness McVey.



"Raj and Eva perform an experiment with photometer in the dark room. No results. Must repeat!"

In assaying. "Hungry, do you roll your ores?" "No, I run them by the nail assay."

Dosie, in compressed air: "What's the weight of a pound of air?"

WHITELY ^{says he does} NOT ^{have to tell anyone, they can see he is} A FRESHMAN

Shorty Clayton, in chemistry: "How do you know that zinc hydroxide is lighter than air?"

Needles, at the Newburg mine: "Say, Kibe, how deep is the hole in the bottom of that shaft?"

Doc Whiteley, in English: "I like the works of Bobby Burns, especially where he talks about Icabod Crane and his horse, Gunpowder."

"What makes the boys like Katherine so,
An eager Freshman cried.
Oh! Katherine likes the boys, you know,
A Sophomore replied."

MANN ^{wants everybody to know that he} CAN'T ^{remain aloof any longer but must} FUSS

McNutt in Metallurgy final (after reading a problem which states that a blower delivers 6000 cu. ft. of free air per minute.)
"Say, Prof! Does that mean air for which you do not have to pay?"

BIG DET ^{states that he} ACTUALLY ^{said "pshaw," but denies that he} SWORE

Buck Owen claims that he worked all one summer in an assaying office in St. Louis. However, we have our doubts about that as the first time he was turned loose in the school assaying laboratory, he built his fire in the ashpit and put the crucibles on the grate bars.

McKIBBEN ^{says that although he} LOST ^{the football captaincy, he still has} IDA



PROF. COX

A Toast to Our Professors

(Being vicarious and sundry remarks appertaining to our highly esteemed and respected professors. This effort is not put forth with the expectation of putting Browning, Shakespeare, Longfellow, etc., out of business nor of enthralling the reader with its poetic beauty or rhythm—it is merely a “nonsense jingle” in which we endeavor to put before our reader and convey to our professors certain facts and peculiarities about themselves which they may heretofore have overlooked.)

Here's to JoJo for a start,
With shaggy beard and legs so short;
He shows no mercy—hears no plea,
His favorite grade is “minus C.”

Here's to Harris, tall and grand,
Explains his lectures with his hands;
He teaches “Frame” and “other things,”
The memory of which always clings.

Here's to Copeland, good old scout,
Who puts the Senior Class to rout;
He stutters, stammers, hops and skips,
And runshistalkcloseinlikethis.

Here's to “Baldy” Cox, who shows
His beaming face and shiny nose;
He tells a rock by its smell or taste,
And tries its hardness on his pate.

Here's to “Daddy” Scott, a prince,
Who hurried once but never since;
His stride is jerky, slow but sure,
His speech concise and most demure.

Here's to Peter Jimmie, boys,
With hoary beard and Spanish joys
“El tiene mucho en su cabeza,
Pero no gusto muy mucho cerveza.”

Here's to Dean, both tried and true,
He's sometimes happy, sometimes blue;
He raises h—— with everyone
And sprinkles through his math with fun.

Here's to Bowen, short and fat,
Who loves to wear an old straw hat;
He runs the shop and thinks it's fun
To have them make “another one.”

Here's to Forbes, the mining man,
Who shows us mines on blue-print plan;
He knows the dip and strike of all,
The veins clear back to days of Saul.

Here's to Dud, the “brainy” one,
Who shows us how the mills are run;
He lectures “a la Copeland” style;
His efforts thus would make you smile.

Here's to Garrett, king of all,
A mighty man although he's small;
He dreams in “Trig” and “Analyt;”
We all regret that he's to quit.

Here's to J. Terence McVey,
A quiet man with little to say;
He teaches Juniors to run curves
And has been known to say six words.

Here's to Mann (Cope's bodyguard),
He works the assay boys real hard;
He shows them how to feather and flux,
While on his brier pipe he sux.

Here's to Gottschalk, Chemistry's dream,
He smokes Bull Durham, inhales the steam;
He talks in dashes, fits and starts
That nearly break the Freshmen's hearts.

Here's to Austin Lee McRae,
The hated rival of McVey;
He treats of Physics, Thermo, sparks,
And turns the “lobsters” into “sharks.”

Here's to Test, a little man,
Who tries the “Freshman Chem” to plan;
He spots the graphite in their work,
And “ties the can” to all who shirk.

Here's to Buerstatte, Drawing “whiz,”
Who never gives the boys a quiz;
He joined the Miners' Minstrel troupe,
But his poor solo “looped the loop.”

Here's to Dennie, our new coach,
His knees make effort to approach;
In parabolical curve they swing,
And form a closed concentric ring.

Here's to “our Director,” Young,
Though last not least. He's quite a gun;
At teaching mining methods new
They used in Noah's time, that's true.

Here's to all the Profs, Oh! well!
We like them all in spite of h——;
Here's to their “quizzes,” hard and long,
And here's the place to stop this song.

H. S. OWEN.

HARRIS is a gun in the subject he TEACHES but he objects to the use of CALCULUS

CHARLIE is not a great hand at handing out KNOCKS especially against students of M.S.M.

Fussers' Club

Object: To promote woman's suffering.

Petticoat-of-Arms: Rampant lions supporting a box of Lowneys, surrounded by a wreath of roses.

Flower: The Bleeding Heart.

Emblem: A Broken Dart.

Chief Heart Breaker: Coach Dennie.

Serene Sampler of the Fudge: Prof. Copeland.

STEADIES.

BILL JONES	JACK CLARK	COUNT WANDER	
HAROLD McKIBBEN	BUCK OWEN	JACK HARLAN	HECTOR BOZA
BENNIE DOSENBACH	J. KISSME BEACH	RUSS CAPLES	
	SID SCHMIDT	ED USTICK	

INTERMITTENTS.

MACOMBER	PICKERING	FRANK BLAKE
JIM KEELYN	GEORGE VOGT	

CULTIVATORS OF THE LEMON TREES.

BILDERBACK	GLEASON	BEN CODY
JOHNNY STEWART	OHNSORG	"LITTLE" JAMES

MOST HIGH AUGUST MISOGYNIST.

DONALDSON

BOB MOOK ^{thinks he} WILL ^{be in Rolla in June to see his ninth class} GRADUATE

There are two kinds of jokes, conscious and unconscious.

1. What is a conscious joke?

Ans. A conscious joke is the pseudo-humorous with which Peterson tries to dope his friends.

2. What is an unconscious joke?

Ans. An unconscious joke is Louis Porri.

A Geological Answer in St. Louis

Inquiry Maniac (to Senior on trip): "Where are you stopping at?"

Senior Geologist: "Oh, I am laying as a fossil in the topmost member of the Marquette (Hotel)."

ST. JAMES ^{although it is} NOT ^{near Rolla, still continues to be} POPULAR

A Sample of "Doctor" Dudley's Fool Questions in Ore Dressing.

Given a mill of 1,000 tons capacity, treating an ore running \$18.00 per ton, values being in lead, silver and free gold. What size shoes does the Superintendent wear?

BEACH ^{says that although he has} WON ^{a home, he never could win a} KELLY GAME

Alumni

- ALEXANDER, CURTIS, 1884,
Garfield, Utah.
- ALEXANDER, RAPHAEL CURRIER, 1903.
- ALEXANDER, THOMPSON, 1901,
Division Engineer, St. Louis & San Francisco Railroad, Chaffee, Mo.
- AMBLER, JOHN OWEN, 1906,
Cananea Consolidated Copper Company, Cananea, Mexico.
- ANDERSON, HECTOR GEORGE SYLVESTER, 1908,
Ray Consolidated Copper Company, Kelvin, Ariz.
- ANDERSON, PERRY BARTON, 1897,
Cuba.
- ARMSTRONG, RICHARD EDWARD, 1908,
Engineer with Utah Consolidated Copper Company, 150 N. W. Temple, Salt
Lake City, Utah.
- BAKER, ARNOLD GEORGE, 1907,
Chouteau, Mont.
- BAKER, CHARLES ARMSTRONG, 1908,
Ely, Nev.
- BARKER, RALPH, 1898.
- BARRETT, EDWARD PHILLIP, 1909,
Instructor in Chemistry, Oklahoma School of Mines, Wilburton, Okla.
- BARTLETT, ALBERT BABBITT, 1907,
Consulting Mining Engineer, Cheyenne, Wyo.
- BARTON, ROBERT ARTHUR, 1906,
Vernon, B. C.
- BAUERIS, WILLIAM ALBERT, 1909,
10216 Lowe Ave., Chicago, Ill.
- BEAN, WILLIAM YANTIS, 1878,
510 Pine St., St. Louis, Mo.
- BEARD, JOHN WARREN, 1909,
Care Opher Tunnel, Smuggler, Colo.
- BEDFORD, ROBERT HARDY, 1906,
Globe, Ariz.
- BELL, FRANK ROLLA, 1903,
Bartlesville, Okla.
- BENEDICT, RALPH ROBERT, 1908,
City Engineering Department, 659 Park Ave., Kansas City, Mo.
- BLACK, JAMES KENNEY, 1904,
Instructor, Washington University, Clayton, Mo.
- BLAND, GEORGE VEST, 1904,
Superintendent, Sulzer Mine, Sulzer, Alaska.
- BOWLES, JOHN HYER, 1908,
Assayer, Granby Mining and Smelting Company, Granby, Mo.
- BOYER, FRED TETE, 1909,
Care National Lead Company, St. Louis, Mo.
- BOYER, GEORGE HEWITT, 1908,
Chemist, Continental Portland Cement Company, R. F. D. No. 8, Jefferson
Barracks, Mo.
- BROOKS, JOHN McMILLEN, 1906.
- BROWN, JOSEPH JARVIS, JR., 1905,
Professor of Metallurgy, Oklahoma School of Mines, Wilburton, Ok.
- BROWN, WILLIAM ERNEST, 1907,
Denver, Colo.
- BROWN, WILTON RUTHERFORD, 1878.
- BUCKBY, DE HARD WILSON, 1901,
Whitehall, Mont.
- BURGHIER, MARK BERNARDI, 1906,
City Engineer, Hannibal, Mo.
- BUSKETT, EVANS WALKER, 1895,
Neihart, Mont.
- BUSKETT, MARY P., 1893.
- BUTLER, REGINALD HENRY BRINTON, 1909,
Javali Mine, La Libertad, Jerez, Nicaragua, Central America.
- CAMERON, JOHN SIMPSON, 1897,
Mine Operator, Lehigh, Ok.
- CAPLES, JAMES WATTS, 1905,
Lemhi Engineering Company, Salmon, Idaho.

CARNAHAN, THOMAS SAMUEL, 1904,
General Manager, Tonopah-Liberty Mining Company, P. O. Box 296, Tonopah, Nev.

CARSON, ARTHUR C., 1880,
Manager, North Butte Copper Company, Butte, Mont.

CAVAZOS, ENRIQUE, 1909,
Mazapil Copper Company, Ltd., Mazapil, Zacatecas, Mexico.

CHAMBERLAIN, ERNEST LORENZ, 1909,
Mississippi River Commission, Box 1017, Memphis, Tenn.

CHAMBERLAIN, HARRY CARLETON, 1905,
Cornelia Copper Company, Gila Bend, Ariz.

CHAMBERLAIN, SANTIAGO, 1900,
Campania Minera, Conception Del Oro, Zac., Mexico.

CHRISTOPHER, JAMES KNIGHT, 1905,
317 Board of Trade Bldg., Kansas City, Mo.

CLARK, GEORGE CLOUGH, 1899,
Clark Engineering Company, Tucson, Ariz.

CLARK, WILLIAM NEWTON, 1909,
Engineer, Phillips Fuel Company, Ottumwa, Ia.

CLARKE, WILLIAM DANELS, 1909,
Utah Copper Company, Garfield, Utah.

CLARY, JOHN HENRY, 1905,
Moore & Clary, Engineers and Assayers, Wallace, Idaho.

CLAYPOOL, WM. M., 1884,
Hollywood, Cal.

COLE, GEORGE W., 1887,
Deceased.

COMPTON, JAMES CRAWFORD, 1909,
Kaw Paving Company, Emporia, Kan.

CONRADS, RALPH AUGUSTUS, 1904,
Esperanza Mining Company, El Oro., E. de Mexico, Mexico.

COOK, ELDON EVERETT, 1907,
Osborn, Mo.

COOK, PAUL RICHARDSON, 1907,
Engineering Department, Oregon Short Line R. R., Salt Lake City, Utah.

COPPEDGE, LINDSAY L., 1878,
Deceased.

COWEN, HERMAN CYRIL, 1895,
Cementon, N. Y.

COWLES, FREDERICK RAGLAND, 1901,
University Preparatory School, 16 E. Thirty-fourth St., Kansas City, Mo.

COWPERTHWAIT, THOMAS, 1905,
Engineering Department, Calumet and Arizona Mining Company, Box 794, Warren, Ariz.

CULLINGS, JAY, 1886,
Assistant Bridge Engineer, A., T. & S. F.-D. & R. G. R. R., Pueblo, Colo.

CUMMINS, ROBERT PATRICK, 1905,
Engineering Department, Frisco Railroad, 3835 Page Ave., St. Louis, Mo.

D'ARCY, ARTHUR IGNATIUS, 1903,
Mina, Nev.

DAILEY, CORNELIUS MARK, 1902,
Care Edward Flad, St. Louis, Mo.

DAVIS, FLOYD, 1883,
Consulting Mining Engineer, 1659 Broadway, Denver, Colo.

DEAN, GEORGE REGINALD, 1890,
Professor of Mathematics, Missouri School of Mines, Rolla, Mo.

DEAN, GEORGE WALTER, 1897,
Consulting Engineer, Pan-American Tin Company, La Paz, Bolivia, S. A.

DEEGAN, FRANCIS J., 1875,
Deceased.

DELANO, LEWIS ALFRED, 1904,
Assayer, St. Joseph Lead Company, Bonne Terre, Mo.

DE LAY, THEO. STUART, 1894.

DE WATERS, ROY HAYWOOD, 1909,
Chemist, Corn Products Company, 1930 B St., Granite City, Ill.

DON, DE FORREST, 1909,
Granite Bi-Metallic Con. Min. Co., Phillipsburg, Mont.

DRAPER, JAMES CLARK, 1901,
Consulting Engineer, Joplin, Mo.

DUDLEY, BOYD, JR., 1908,
Instructor in Metallurgy and Ore Dressing, Missouri School of Mines, Rolla, Mo.

DUNCAN, GUSTAVUS A., 1874,
Manager Nevada Eldorado Mines Company, Nelson, Nev.

DUNKIN, DAMON DUFFIELD, 1904,
Professor of Mining, Oklahoma School of Mines, Wilburton, Ok.

DWYER, EDWARD P., 1895,
Joplin, Mo.

DYER, T., 1894,
Rolla, Mo.

EARDLEY, ALBERT EDWIN, 1897,
Carriso Springs, Tex.

EASLEY, GEORGE ALBERT, 1909,
Superintendent, Pan-American Tin Company, Le Paz, Bolivia, South America.

ELICANO, VICTORIANO, 1909,
Massinloc, Tambles, P. I.

EMERSON, CYRUS, 1876,
Pittsburg, Kan.

ERICSON, JOHN T. E., 1907,
Chemist with Carnegie Steel Company, 1227 Caldwell St., Clairton, Pa.

FACH, CHARLES ALBERT, 1900.

FAY, ALBERT HILL, 1902,
Engineering and Mining Journal, 505 Pearl St., New York, N. Y.

FELLOWS, AUBREY P., 1907,
Chemist, St. L. S. & R. Company, Collinsville, Ill.

FERNANDEZ, ABRAHAM LEONARDO, 1900,

FLORREICH, PHILLIP, 1895,
United States Engineering Corps, St. Louis, Mo.

FOSTER, LEO JOSEPH, 1904,
United States Reclamation Service, Montrose, Colo.

FOWLER, JAMES DUNCAN, 1908,
Montrose, Colo.

FRAIZER, ISAAC PETER, 1900,
P. O. Box 652, Salt Lake City, Utah.

FRENCH, CHARLES LEWIS, 1908,
Bisbee, Ariz.

FULCHER, JAMES E., 1888,
Instructor in Descriptive Geometry and Drawing, 1348 Wilmot St., Ann Arbor, Mich.

GALLAHER, PHILLIP C., 1884,
Chemist, Iron-Silver Mining Company, 610 Harrison Ave., Leadville, Colo.

GARCIA, JOHN ADRIAN, 1900,
General Superintendent, Brazil Block Coal Company, Old Colony Bldg., Chicago, Ill.

GARDINER, WILLIAM ALEXANDER, 1906,
Esperanza Mining Company, El Oro, Mex.

GARRETT, LEON ELLIS, 1901,
Assistant Professor of Mathematics, Missouri School of Mines, Rolla, Mo.

GARST, HARVEY ODEN, 1909,
Engineering Department, Pocatella, Idaho.

GIBB, FRANK W., 1882,
Gibb & Sanders, Architects, Little Rock, Ark.

GILL, JOHN HOLT, 1874,
Deceased.

GILL, WILLIAM HARRIS, 1903,
National Zinc Company, Bartlesville, Okla.

GORMLEY, SAMUEL JAMES, 1895,
Smelter Superintendent, Cerro de Pasco Mining Company, Lima, Peru, S. A.

GOTTSCHALK, VICTOR HUGO, 1898,
Professor of Chemistry, Missouri School of Mines, Rolla, Mo.

GRABILL, LEE R., 1878,
Assistant Engineer, War Department, Washington, D. C.

GREASON, JOHN D., 1876,
Deceased.

GREEN, CECIL THEODORE, 1906,
Rosario, Sinaloa, Mexico.

GREENIDGE, SAMUEL MARSHALL, 1902,
Cananea Consolidated Copper Company, Cananea, Mexico.

GREGORY, JAMES ALBERT, 1905,
Rolla, Mo.

GRETHER, WALTER SCOTT, 1906,
Salt Lake City, Utah.

GRIFFITH, WILLIAM THOMAS, 1906.

GRINE, HARRY ADAM, 1904,
3627 Weber Road, St. Louis, Mo.

GROVE, CLAUDE DEVLIN, 1894,
Skagit Queen Consolidated Mining Company, Marblemount, Wash.

GUNTLEY, EDWARD ANTHONY, 1906,
McGill, Nev.

HALL, WILLIAM SIMPSON, 1909,
Sampler, Pachucha, Hdgo., Mexico.

HAM, ROSCOE CONKLING, 1909,
Warren, Ariz.

HAND, HORACE ALONZO, 1906,
Salt Lake City, Utah.

HANLEY, HERBERT RUSSELL, 1901,
Deceased.

HARE, ALMON W., 1875,
Deceased.

HARPER, FRANK WILLIAM, 1908,
Chief Chemist, Great Western Mining Company and C. & A. Mining Company,
Courtland, Ariz.

HARRIS, GEORGE W., 1904,
Peregrina Mining and Milling Company, Guanajuata, Mexico.

HARTZELL, HENRY H., 1906,
Granby Mining and Smelting Company, Granby, Mo.

HASE, HERMAN CARL, 1908,
Morenci, Ariz.

HATCH, WILLIAM PETER, 1907,
Kansas City, Mo.

HATCHETT, ROGER HANSOM, 1899.

HAUENSTEIN, FREDERICK, 1903,
Locating Engineer, Los Vegas-Tonopah Railroad, Beatty, Nev.

HECK ELMER COOPER, 1905,
Verde Grande Copper Company, Hermosillo, Son., Mexico.

HENDRICKS, JAMES OTTO, 1899.

HERDMAN, GEORGE WALKER, 1894.

HINSCH, VAN BUREN, 1909,
Instructor, Oklahoma School of Mines, Wilburton, Okla.

HOFFMAN, RAY EUGENE, 1905,
Assistant Engineer, Atlas Portland Cement Company, Hannibal, Mo.

HORNER, PRESTON KING, 1906,
Tanganyika Concession (Ltd.), Katanga, Congo Free State, Africa.

HOYER, RUDOLPH C., 1879,
United States Engineer Office, Montgomery, Ala.

HUGHES, VICTOR HARMON, 1909,
Missouri Bureau of Geology and Mines, Rolla, Mo.

HUNT, LAMAR HORATIO, 1905,
Pachuca, Hacienda de Loreto, Hdgo., Mexico.

HYNES, DIBRELL PRYOR, 1908,
Sampler, Cananea Consolidated Copper Company, Cananea, Mexico.

JACKLING, DANIEL C., 1892,
General Manager, Utah Copper Company; President, Ray Consolidated Cop-
per Company, Salt Lake City, Utah.

JOCHAMOWITZ, SIMON, 1909,
Graduate student, Royal School of Mines, 62 Rue Maubenge, Paris, France.

JOHNSON, EDWARD MACKAY, 1892,
Chemist, Golden Smelter, Golden, Colo.

JOHNSON, HORACE ASAHIEL, 1908,
Millers, Nev.

JONES, ELSTON EVERETT, 1908,
Globe, Ariz.

JONES, FAYETTE ALEXANDER, 1892,
Consulting Mining Engineer and Geologist, Room 4 Armijo Bldg., Albu-
querque, N. M.

KELLOGG, GEORGE FRED, 1908,
Skidmore, Mo.

KENISTON, CARL WINTHROP, 1909,
Eagle Sampling Company, Victor, Colo.

KERSTING, FELIX JOHN, 1897,
State Highway Commission, Columbia, Mo.

KIBE, HARRY CLAY, 1909,
Superintendent, Newburg Mining and Milling Company, Newburg, Mo.

KING, CHARLES LECLAIR, 1904,
Cia de Real del Monte y Pachuca, Pachuca, Mexico.

KIRKHAM, JOHN EDWARD, 1895,
Associate Professor of Civil Engineering, Iowa State College, Ames, Iowa.

KOEBERLIN, FREDERICK RICHARD, 1901.

LACHMUND, OSCAR, 1887,
Consulting Mining Engineer, Newhouse Bldg., Salt Lake City, Utah.

LAIZURE, CLYDE McKEEVER, 1905,
Chas. C. Moore & Co., Millers, Nev.

LEHMAN, JOHN LUDWIG GUSTAV, 1905.

LINTECUM, CHARLES LAFAYETTE, 1905,
Engineer, Liberty Bell G. M. Company, Telluride, Colo.

LOGAN, LEWIS SUBLETTLE, 1903,
408 North Eleventh St., St. Joseph Mo.

LOHMAN, HARRY WILLIAM, 1904,
Manager, Colorado Gold Dredging Company, Breckenridge, Colo.

LONG, JAMES CARTER, 1907,
Victor, Colo.

LOVERIDGE, FRANK RICHARD, 1909,
Chemist with Continental Portland Cement Co., 7802 Vermont St., St. Louis,
Mo.

LUTHER, WALTER ADAMS, 1903,
St. James, Mo.

LYMAN, GEORGE EDWIN, 1902,
Chief Engineer, Madison Coal Corporation, Edwardsville, Ill.

LYNEMAN, FELIX ANTHONY, 1908,
Box 712, Denver, Colo.

MCCARTHY, JOHN HENRY, JR., 1905,
6609 Florissant Ave., St. Louis, Mo.

MCCRAE, ROWE FRANCIS, 1909,
Utah Copper Co., Garfield, Utah.

McELROY, WILLIAM, 1909,
City Engineer, Fort Scott, Kans.

McGRATH, JOHN E., 1876,
Coast and Geodetic Survey, Washington, D. C.

MANN, HORACE THARP, 1908,
Instructor in Metallurgy, Missouri School of Mines, Rolla, Mo.

MAPES, HAROLD THOMAS, 1908,
Oaxaca Iron and Coal Co., La Muta No. 501, Mexico D. F., Mex.

MARTIN, WALTER GUY, 1896,
Ore Purchasing Agent, United States Zinc and Chemical Co., Denver, Colo.

MARTINEZ, CARLOS EFRIN, 1902,
Saltillo Light Co., Saltillo, Coah., Mex.

MARTINEZ, JUSTO G., 1896.

MAY, LAWRENCE, 1902,
Bully Hill Copper Mining and Smelting Co., Winthrop, Cal.

MAZANY, MARK STEPHEN, 1909,
Foreman, Converter Department, Garfield Plant, A. S. & R. Co., Garfield, Utah.

MICHAEL, PEARL FREDERIC, 1909,
Rolla, Mo.

MILLARD, SALLIE E., 1891 (MRS. CORNELIUS ROACH),
Jefferson City, Mo.

MILLSAP, THOMAS H., 1877,
Deceased.

MINGER, WILLIAM C., 1876,
Assayer, Chamberlain-Dillingham Sampling Co., Idaho Springs, Colo.

MINOR, CYRUS EDWARD, 1904,
Cananea, Mex.

MIX, WARD BARR, 1908,
Madison Coal Corporation, Edwardsville, Ill.

MOORE, FREDERICK ARNOLD, 1908,
Assistant Superintendent, St. Joe Lead Co., Herculaneum, Mo.

MOORE, STANLEY RALSTON, 1905,
Moore & Clary, Engineers and Assayers, Wallace, Idaho.

MORGAN, GLENN BECKLEY, 1904,
U. S. Geological Survey, Box 138, Fargo, N. D.

MORRIS, EDMUND JAMES, 1902,
Deceased.

MORTLAND, ERNEST ALBERT, 1901,
Hardin, Ill.

MURRAY, EDWIN PHELPS, 1908,
Engineering Department, Federal Lead Co., Wallace, Idaho.

NACHTMANN, FRANK XAVIER, 1909,
Engineering Department, Frisco R. R., Joplin, Mo.

NEER, DON MORGAN, 1908.

NESBITT, WILLIAM CORSEY, 1905,
Colorado Springs, Colo.

NEUSTRAEDTER, ARTHUR, 1884,
283 Virginia Ave., Jersey City, N. J.

NORTON, BENJAMIN NEWTON, 1902,
 Douglas, Ariz.
 NYE, ALFRED LEO, 1908,
 Pachuca, Hidalgo, Mex. Real del Monte, Minas Barron.
 OHMANN-DUMESNIL, A. H., 1877,
 3553 Park Ave., St. Louis, Mo.
 OLMSTED, GEORGE LEWIS, 1901,
 Doe Run, Mo.
 OWEN, JOHN R. D., 1885,
 Deceased.
 PACK, JAMES A., 1877,
 De Lamar, Idaho.
 PACK, JOHN WALLACE, 1874,
 Assayer, U. S. Mint, San Francisco, Cal.
 PAINTER, WILLIAM R., 1882,
 Editor, Carrollton, Mo.
 PERKINS, EDWIN THOMPSON, 1899,
 Underwood & Perkins, Mining and Metallurgical Engineers, Granby, Mo.
 PERKINS, FRED HOUGH, 1899,
 Flagstaff, Ariz.
 PERKINS, WILLIAM CRUTCHER, 1907,
 Plattsburg, Mo.
 PHELPS, TRACY IRWIN, 1906,
 Department of the Interior, U. S. Geological Survey, River Portal, Colo.
 PHILIPPI, PAUL ANDREW, 1908,
 Student, Rose Polytechnic Institute, 5165 Maple Ave., St. Louis, Mo.
 PHILLIPS, WALTER IRVING, 1907,
 Engineer, Bartlett Engineering Co., Box 351, Cheyenne, Wyo.
 PICKLES, JOHN LEWIS, 1902,
 1310 River St., El Paso, Tex.
 POLLARD, ARTHUR LEWIS, 1909,
 Chemist with Lackawanna Steel Co., 35 Bank St., Batavia, N. Y.
 POWELL, FRANK BOWMAN, 1906,
 Lumber Merchant, Rolla, Mo.
 POWELL, WALBRIDGE HENRY, 1901,
 Lumber Merchant, St. James, Mo.
 PRICE, EVAN EDMUND, 1904,
 Ohio Copper Co., Bingham Canon, Utah.
 PRICE, JOHN MORGAN, 1904,
 La Plata, Colo.
 PRUGH, JULIAN INSCO, 1905,
 Gold Park Mining Co., Banning, Cal.
 QUINN, MATTHEW VINCENT, 1905,
 Belshazzar Mining Co., Quartzburg, Idaho.
 REID, JOHN CALUM, 1893,
 General Manager, The Great Western Coal and Coke Co., McAlester, Okla.
 REX, HARRY NOEL, 1902,
 Douglas, Ariz.
 RICE, JOHN TURNER, 1904,
 1615 Emmet St., Omaha, Neb.
 RICHARDS, WALTER COFFRAN, 1907,
 Supt. American Fluorspar Mining Co., R. F. D. No. 2, Fredonia, Ky.
 RIVERA, RAMON, 1906,
 Civil Engineer, Aranzazu No. 116, Guadalajara, Jalisco, Mexico.
 ROESLER, HERBERT ARNO, 1903,
 2726 Prospect Ave., Kansas City, Mo.
 ROGERS, HERBERT FORDYCE, 1899,
 2914 Louisiana Ave., St. Louis, Mo.
 ROGERS, JOHN A., 1903,
 Engineer, Cochite Gold Milling Co., Bland, New Mex.
 ROLUFS, RULOF THEODORE, 1901,
 Superintendent, St. Joe Lead Co., Herculaneum, Mo.
 ROSS, BEAUREGARD, 1882,
 Consulting Mining Engineer, Room 11, 1156½ Champa St., Denver, Colo.
 RUCKER, RAY FLEMING, 1906,
 Assistant Superintendent, Atlas Portland Cement Co., Hannibal, Mo.
 SANDFORD, JOHN JOSEPH, 1908,
 Tooele, Utah.
 SCHRANTZ, ASHAB B., 1882.
 SCHROEDER, JOHN SEVERIN, 1904,
 Peabody, Kans.
 SCHULZE, HERMANN OTTO, 1899,
 Wonder, via Fairview, Nev.

SCHULZE, EUGENE VICTOR, 1903.
 SCOTT, JOHN BENNETT, 1907,
 Instructor in English, Missouri School of Mines, Rolla, Mo.
 SEAMON, FRANK HENRY, 1891,
 Commercial Chemist and Assayer, El Paso, Tex.
 SEBREE, JOHN PAYNE, 1907,
 3017 S. Eighth St., Tacoma, Wash.
 SEDIVY, MILES, 1908.
 SELTZER, ANDREW JACKSON, 1907,
 Professor of Metallurgy, Imperial School of Mines, Wuchang, Province of
 Hupe, China.
 SHAH, AARON MAX, 1909,
 Vilna, Russia.
 SHANKS, JOHN DOZIER, 1906,
 823 N. Third St., St. Louis, Mo.
 SHELDON, WILBUR ELIHU, 1905,
 Sterling, Colo.
 SMITH, CHARLES DOSH, 1905,
 Manager, Cohuila Mining Co., Webb City, Mo.
 SMITH, EARL MCCOLLOCH, 1909,
 Assayer for Customs Service, 917 Forest Ave., Kansas City, Mo.
 SMITH, LORIN X., 1880,
 Houston, Mo.
 SNYDER, BYRON JOHN, 1907,
 Professor of Mining and Electrical Engineering, North Georgia Agricultural
 College, Dahlonega, Ga.
 SOEST, WALTER ERNEST, 1899,
 Chihuahua Copper Company, Chihuahua, Mexico.
 SPENCER, CLIFTON BATES, 1893,
 Resident Engineer, St. L. & S. F. R. R., Joplin, Mo.
 SPENGLER, ALBERT, 1901,
 2626 Holly St., Denver, Colo.
 STAUBER, IGNATIUS JOSEPH HENRY, 1901,
 Manager, Savanna Copper Company, Silver City, N. M.
 STEINMESCH, JESSE HERMAN, 1906,
 Desloge Cons. Lead Company, Desloge, Mo.
 STEVENS, JOHN VIVIAN, 1906,
 Southern Irrigation, Land and Power Company, Los Lunas, N. M.
 STEWART, ARTHUR J., 1891,
 Tecalitlan, Jalisco, Mexico.
 SUMMERS, EDWARD B., 1881.
 SUNADA, SAKUHEI, 1907,
 143 Michigan Ave., Chicago, Ill.
 TAYLOR, HOWARD JOSHUA, 1899.
 TAYLOR, JOSEPH MacFERRAN, 1905.
 TAYMAN, FRANCIS JOSEPH, 1899,
 Mine Superintendent, Los Grades Incorporated, Los Grades, Guerrero, Mexico.
 TERRELL, ARTHUR DAVIS, 1898,
 Mineral Paint Zinc Company, De Pue, Ill.
 THOMAS, ALFRED AUGUSTUS, JR., 1905.
 THOMAS, WM. STEPHENS, 1894,
 Bevier, Mo.
 THOMPSON, ROBERT CLAIR, 1904,
 Professor of Chemistry, Oklahoma School of Mines, Wilburton, Ok.
 THORNHILL, EDWIN BRYANT, 1908,
 Lemhi Engineering Company, Salmon City, Idaho.
 TORRENCE, EVART CARL, 1898.
 TORRENCE, LESLIE CLAY, 1897.
 TSEUNG, TSIK CHAN, 1907,
 Polytechnic, Changsa, Hunan, China.
 TWEED, WALTER JAMES, 1904,
 Houston, Mo.
 TYRRELL, FRANK LEE, 1892,
 Salem, Mo.
 UNDERWOOD, JERROLD ROSCOE, 1899,
 Underwood & Perkins, Mining and Metallurgical Engineers, Granby, Mo.
 VAN DEVANDER, HERMANN NEFF, 1882,
 Cedartown, Ga.
 VAN FRANK, PHILLIP R., 1885,
 Assistant Engineer, United States Government, Little Rock, Ark.
 VITT, JOHN THOMAS, 1907,
 Union, Mo.

WALKER, JOHN EDWARD, 1903,
Room 702, R. P. & S. W. Bldg., El Paso, Tex.

WALSH, FRANCIS HENRY, 1902,
Chief Electrical Engineer, Guanajuato Mining and Milling Company, Guanajuato, Mexico.

WASH, EDWIN RICHARD, 1907,
Mining Engineer, Box 147, Tombstone, Ariz.

WATKINS, JOSEPH CLARENCE, 1901,
Joplin, Mo.

WEBSTER, ROYAL SYLVESTER, 1903,
Havana Central Railroad, Havana, Cuba.

WEIDNER, FRANK HAYS, 1903,
1102 East St., Iola, Kan.

WEIGEL, WILLIAM MELVIN, 1900,
Assistant Professor of Mining, Pennsylvania State College, State College, Pa.

WILES, GEORGE B., 1887.

WILFLEY, CLIFFORD REDMAN, 1905,
Cabrera Mines, Hostotipaquillo, Jalisco, Mexico.

WILSON, ALBERT DYKE, 1902,
Chemist, Laclede Gas Light Company, St. Louis, Mo.

WILSON, FRANK LEWIS LEONARD, 1908,
Steptoe Valley Smelting and Mining Company, McGill, Nev.

WILSON, FRANK WALTER, 1884.

WILSON, FREMONT, 1885,
County and City Engineer, Marion, Ind.

WINTERS, CHAS. F., 1879,
Teller, National Bank, Los Angeles, Cal.

WISHON, A. EMORY, 1909,
San Joaquin Light and Power Company, Fresno, Cal.

WISHON, WALTER W., 1881,
Austin Manhattan Consolidated Mining Company, Austin, Nev.

WOLF, EDGAR JOSEPH, 1909,
Chemist, Alpha Copper Company, Somerville, N. J.

WOOD, CLYDE REX, 1908,
Real del Monte, Minas Barron, Pachuca, Hidalgo, Mexico.

WOODHALL, GEO., JR., 1901.

WOODS, CLARENCE, 1904,
Valcalda Mine, Blair, Nev.

WRIGHT, IRA LEE, 1907,
Savanna Copper Company, Silver City, N. M.

WYMAN, WILLIAM CHARLES, 1906,
Anchor Coal Company, Ottumwa, Ia.

YEATER, MERRITT W., 1886,
Contractor, Sedalia, Mo.

ZIRULICK, HYMAN, 1908,
Minsk, Russia.

Students at the Missouri School of Mines and Metallurgy

1909-1910

Graduate Students

*BARTLETT, ALBERT BABBITT,
B. S. in M. E., 1907, School of Mines, Cheyenne, Wyo.

*CHAMBERLAIN, HARRY CARLETON,
B. S. in M. E., 1905, School of Mines, Gila Bend, Ariz.

*CLARY, JOHN HENRY,
B. S. in M. E., 1905, School of Mines, Wallace, Idaho.

DUDLEY, BOYD, JR.,
B. S. in G. S., 1908, School of Mines, Rolla, Mo.

*HUNT, LAMAR HORATIO,
B. S. in M. E., 1905, School of Mines, Pachuca, Mexico.

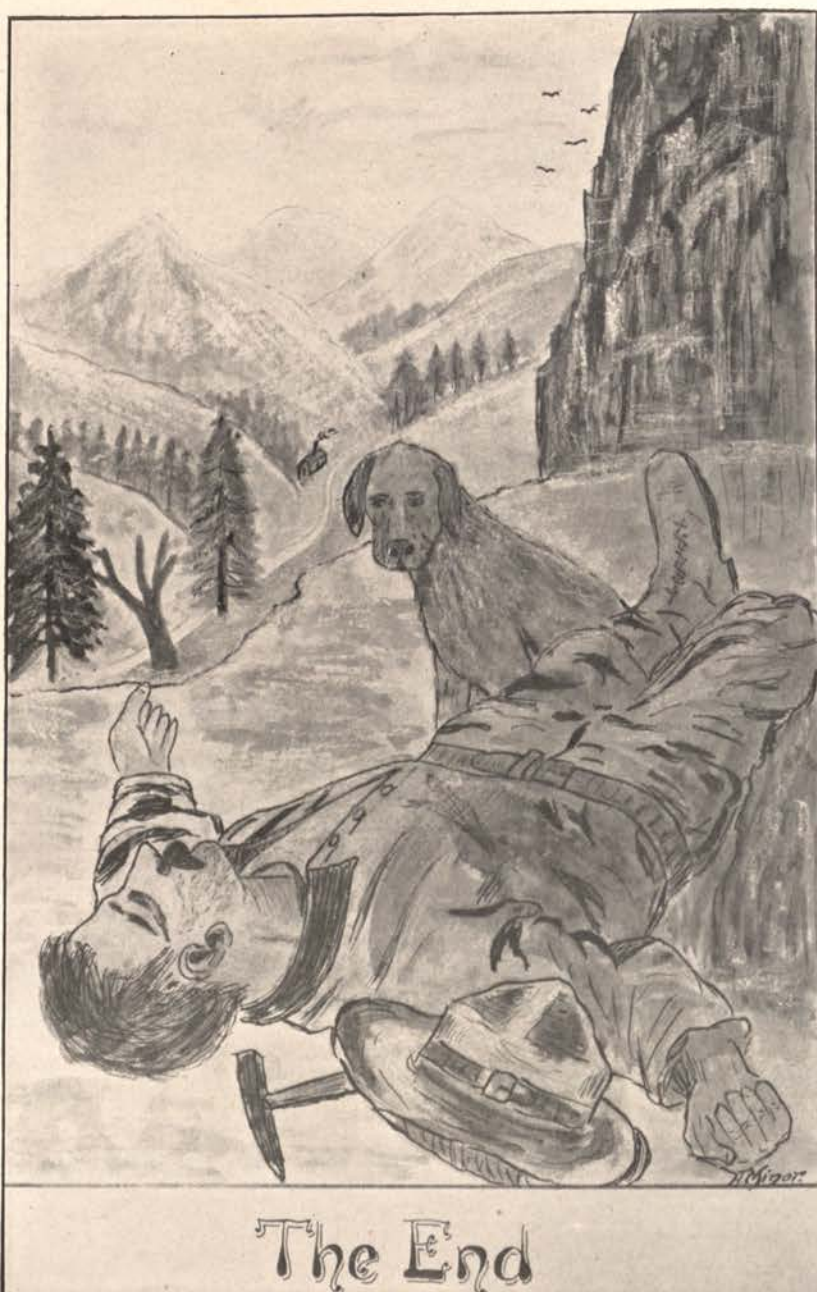
KENISTON, CARL WINTHROP,
B. S. in G. S., 1909, School of Mines, Rolla, Mo.

*LINTECUM, CHARLES LAFAYETTE,
B. S. in M. E., 1905, School of Mines, Telluride, Colo.

*LOHMAN, HARRY WILLIAM,
B. S. in M. E., 1904, School of Mines, Breckenridge, Colo.

*LYMAN, GEORGE EDWIN,
B. S. in C. E., 1902, School of Mines, Edwardsville, Ill.

- MANN, HORACE THARP,
 B. S. in M. E., 1908, School of Mines;
 M. S., 1909, School of Mines, Rolla, Mo.
- *PHILLIPS, WALTER IRVING,
 B. S. in Met., 1907, School of Mines, Cheyenne, Wyo.
- *RICHARDS, WALTER COFFRAN,
 B. S. in M. E., 1907, School of Mines, Fredonia, Ky.
- *RIVERA, RAMON,
 B. S. in C. E., 1906, School of Mines, Guadalajara, Mexico.
- *RUCKER, RAY FLEMING,
 B. S. in M. E., 1906, School of Mines, Hannibal, Mo.
- *SELTZER, ANDREW JACKSON,
 B. S. in Met., 1907, School of Mines, Wuchang, China.
- *SNYDER, BYRON JOHN,
 B. S. in Met., 1907, School of Mines, Dahlonega, Ga.
- *TSEUNG, TSIK CHAN,
 B. S. in M. E., 1907, School of Mines, Changsa, China.
- *WASH, EDWIN RICHARD,
 B. S. in M. E., 1907, School of Mines, Tombstone, Ariz.
- *In Absentia.



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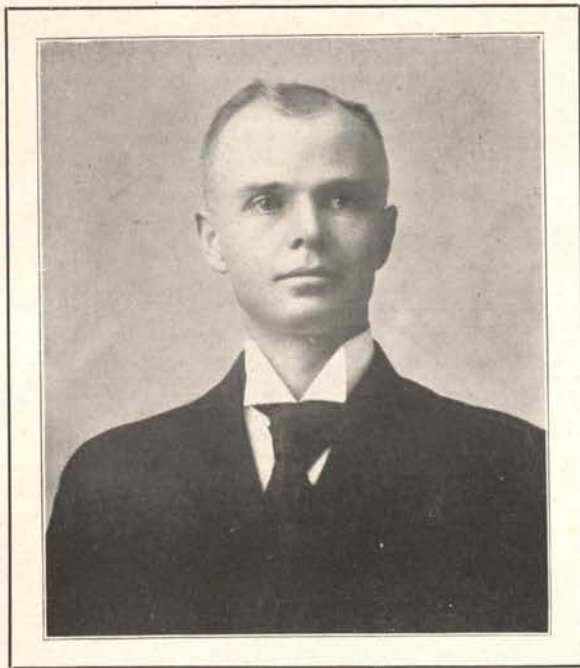
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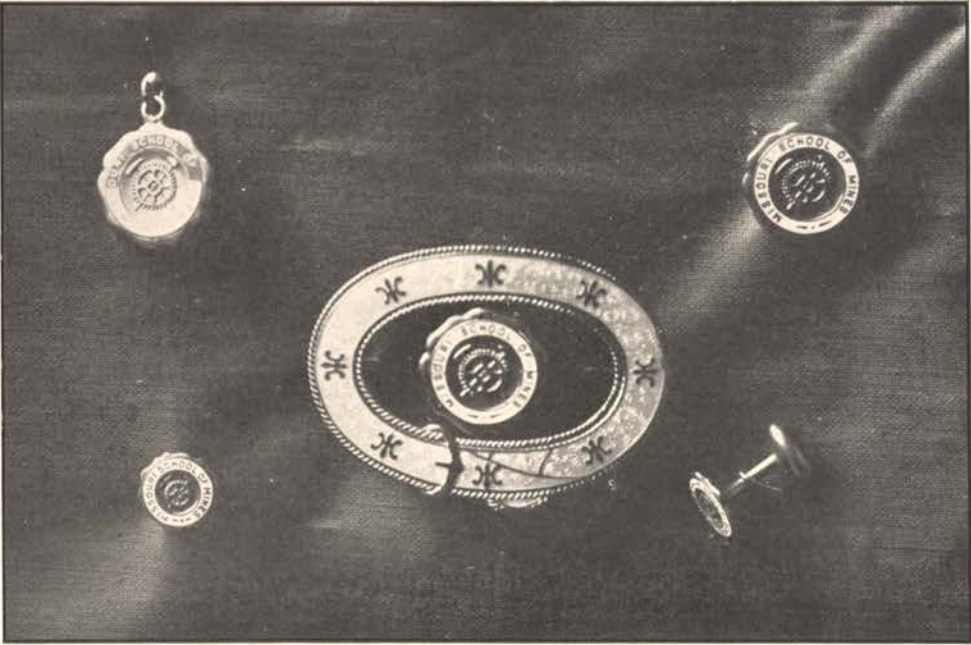
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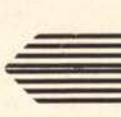
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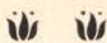
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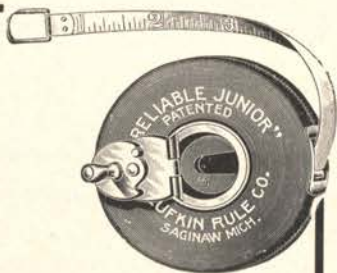
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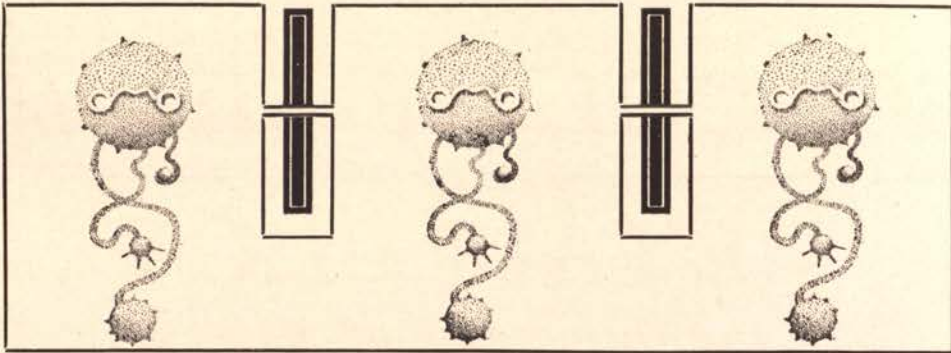
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